Appendix C

Materials from Stakeholder Engagement

The following section details the stakeholder engagement efforts during the development of the HCR Plan. This included engagement with the Planning Team coimposed of city departments and community based organizations operating in relvent sectors and representing the general public. A variety of approaches were used including workshops, public presentations, social media engagement, and public surveys. Materials received during the public comment period can be found reproduced in this appendix as well, with details as to how they were addressed and integrated into the plan.

Planning Team

Roster

TABLE 2-2: PLANNING TEAM ROSTER

Name	Department/Organization
McLean, Mark	Controller's Office (CON)
Tune, Alec	Controller's Office (CON)
Tom, Ronald	Department of Building Inspection (DBI)
Chin, Tom	Department of Emergency Management (DEM)
Schaffer, Edie	Department of Emergency Management (DEM)
Zamora, Francis	Department of Emergency Management (DEM)
Cushing, Stephanie	Department of Public Health (DPH)
Dowling, Teri	Department of Public Health (DPH)
Gara, Max	Department of Public Health (DPH)
Wolff, Matt	Department of Public Health (DPH)
Chono, Cynthia	Department of Public Works (DPW)
Laue, Julia	Department of Public Works (DPW)
Weiner, Jerad	Department of Public Works (DPW)
Johnson, Jeff	Department of Technology (DT)
Mackstron, Michael	Department of Technology (DT)
Goodfriend, Wendy	Department of the Environment (SFE)

Name	Department/Organization
Felter, Elizabeth	Department of the Environment (SFE)
Cochrane, Michael	Fire Department (SFFD)
Arteseros, Erica	Fire Department (SFFD)
Hansen, Matt	General Services Agency, Risk Management Div. (GSA)
Lee, Jonah	Mayor's Office of Housing and Community Development (MOHCD)
Adams, Dan	Mayor's Office of Housing and Community Development (MOHCD)
Bohn, Nicole	Mayor's Office on Disability (MYR)
Fraguli, Joanna	Mayor's Office on Disability (MYR)
Doherty, Tim	Municipal Transportation Agency (MTA)
Lam, Scarlett	Municipal Transportation Agency (MTA)
Stefiuk, Emily	Municipal Transportation Agency (MTA)
Homsey, Daniel	Office of the City Administrator (ADM)
Majeski, Nick	Office of the City Administrator (ADM)
Levenson, Leo	Office of Community Investment and Infrastructure (OCII)
Haddix, Lindsey	Office of Homeless of Supportive Housing (HAS)
Green, Heather	Office of Resilience and Capital Planning (ORCP)
Higbee, Melissa	Office of Resilience and Capital Planning (ORCP)
Morrison, Alex	Office of Resilience and Capital Planning (ORCP)

Name	Department/Organization
Strong, Brian	Office of Resilience and Capital Planning (ORCP)
Jim Buker	Office of Resilience and Capital Planning (ORCP)
Tave, Anthony	Police Department (SFPD)
Lowe, Lindy	Port of San Francisco (Port)
Oshima, Diane	Port of San Francisco (Port)
Behar, David	Public Utilities Commission (SFPUC)
Chokshi, Mira	Public Utilities Commission (SFPUC)
Roche, Anna	Public Utilities Commission(SFPUC)
Tanikawa, Sachiko	Real Estate (RED)
Anderson, Eric	Recreation and Parks Department (REC)
Stokle, Brian	Recreation and Parks Department (REC)
Birrer, Joe	San Francisco International AirPort (SFO)
Cooke, Erin	San Francisco International AirPort (SFO)
Mares, Larry	San Francisco International AirPort (SFO)
Fisher, Lisa	SF Department of City Planning (Planning)
Varat, Adam	SF Department of City Planning (Planning)
Cabebe, Alejandro	Sherriff's Department (SHF)
Summerville, Peter	Treasure Island Development Agency (TIDA)

Stakeholder Engagement

CITY AND COUNTY OF SAN FRANCISCO

Community Engagement Report

San Francisco Hazards & Climate Resilience Plan

October 2019

SFDEM San Francisco Department of Emergency Management

SF Environment Our home. Our city. Our planet.

Rail Associates

ONESF Building Our Future

San Francisco Department of Public Health

San Francisco Planning

Acknowledgements

The City greatly appreciates the valuable perspectives and feedback shared by all participants, who represented the following businesses, agencies, organizations, and programs.

Businesses + Commercial Properties (18 participants)	• Able Services • ACCO Engineered Systems • Arup • Business Council on Climate Change • East Cut CBD Fisherman's Wharf CBD	• Mercy Housing • Mid Market CBD • Ocean Avenue Association • Office of Small Business / Small Business Commission • Pacific Gas & Electric (PGE) • Presidio Work Spaces	• Public Utilities Commission • Recology • Shorenstein Real Estate • terrafuse.ai • Whole Foods • Yerba Buena Community Benefit District
Housing and Residential Property Managers/Owners (12 participants)	• Alton Management Corporation • CA Housing Partnership - SF • Enterprise Community Partners • FPI Management, Inc./EPMI Management Group	• McCormack Baron Salazar • Mercy Housing • Mission Plaza Apartments • Pacific Union Development Company (PUDCo) • RMS	• San Francisco Housing Authority • Tenderloin Neighborhood Development Corporation (TNDC)
People with Disabilities/ Access or Functional Needs and Older Adults (25 participants)	• American Red Cross SF Disaster Cycle Services • The ARC of San Francisco • Department of Aging & Adult Services • Department of Emergency Management • Department of Family & Children's Services • Department of Public Health – Community Behavioral Health Services	• Golden Gate Village • Homebridge, Inc • Hospice by the Bay • Human Services Agency - Administration • Independent Living Resource Center of San Francisco • IntelliRide (Paratransit Service) • Interfaith Council of San Francisco • Mayor's Office on Disability	• Meals on Wheels • Neighborhood Empowerment Network • On Lok • Richmond Senior Center • San Francisco In Home Support Services (SFIHSS) Public Authority
Racial, Social, and Environmental Justice (12 participants)	• Enterprise Community Partners • Gao Designs • GreenAction for Health and Environmental Justice • Hassell Studio	• Interfaith Power & Light • Office of Civic Engagement and Immigrant Affairs • Neighborhood Empowerment Network • Planning Department	• RDJ Enterprises • Resilient Bayview • Walter & Elise Haas Fund
Children, Youth, and Families (13 participants)	• Community Youth Center • CARECEN SF / Central American Resource Center • Department of Children, Youth, & Families • Enterprise for Youth	• Homeless Prenatal Program • Hunters Point Family • MEDA / Mission Economic Development Agency • Oasis for Girls • SF Achievers	• SF LGBT Center • Third Street Youth Center & Clinic • YMCA

The following City and County of San Francisco staff (all participants in the HCR Plan Community Engagement Committee) helped organize and facilitate the stakeholder workshops:

Office of Resilience & Capital Planning
- Heather Green
- Jim Buker
- Melissa Higbee
- Alex Morrison

Planning Department
- Lisa Fisher
- Julia Branco

Department of Emergency Management
- Kristin Hogan

Department of Environment
- Elizabeth Felter

Department of Public Health
- Teri Dowling
- Sheilah Zarate

Community Engagement Report

San Francisco Hazards & Climate Resilience Plan: 2019 Update

Contents

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Introduction

Project Background

The City and County of San Francisco is developing a Hazards and Climate Resilience (HCR) Plan to ensure that the City and County is prepared for inevitable natural hazards. While the Federal Emergency Management Agency (FEMA) requires that the City identify and implement strategies to mitigate potential hazards, the City recognizes the impacts of climate change as a hazard and has therefore incorporated climate resilience into the hazard mitigation plan. The strategies within this plan seek to increase the resilience of all the parts of the City that keep it running - buildings, infrastructure, utilities, transportation, communication systems, and of course the people who live and work in San Francisco. The HCR Plan will also underpin the City's next Climate Action Strategy and Community Safety Element update. Numerous departments are collaborating to create this plan so that it is comprehensive and holistic. To ensure strategies are based in evidence, the project team has conducted an assessment of the unique hazards that impact San Francisco.

Collaborative Planning Process

The City and County of San Francisco Office of Resilience and Capital Planning is leading this effort in partnership with the Department of Emergency Management, Department of Public Health, Department of the Environment, and Planning. Many other agencies (including SFO, Public Works, SFMTA, the zoo, SFPUC, Police and Fire, Recreation & Parks, Real Estate) have also contributed to the planning process.

Hazards that Impact San Francisco

California communities have historically been seriously impacted by seismic hazards, such as earthquakes and landslides and, more recently, by climate hazards that will become more severe in coming decades. More recently, regional droughts and wildfires have resulted in poor air quality and extreme heat emergencies that illustrate the types of impacts this Plan and the San Francisco community must address.[1]

While natural hazards impact everyone, they have a greater impact on disadvantaged communities and vulnerable community members. Community feedback is critical to help ensure the HCR Plan prioritizes mitigation and recovery actions with multiple benefits (including increasing racial and social equity and environmental justice) and includes creative and community-supported solutions.

The primary natural hazards that impact San Francisco are:

Geological
- Earthquake
- Landslide
- Tsunami
- Dam or Reservoir Failure

Weather-related
- Flooding
- Extreme Heat
- Drought

Combustion-related
- Wildfire
- Urban Fire/ Conflagration
- Poor Air Quality

Biological and Toxic
- Disease Outbreaks
- Hazardous Materials

Did you know?

New models estimate that in a magnitude 7.8 San Andreas earthquake, 18,300 residential buildings could be damaged in San Francisco, temporarily or permanently

[1] Resilience Program, Association of Bay Area Governments. (2017) "Expected Housing Losses in an Earthquake." <http://resilience.abag.ca.gov/projects/housinglosses/>

Key Planning Issues

When the stakeholder workshops were conducted and the community survey was developed, the presentation of the HCR Plan strategies was organized around the key planning issues of: The Waterfront & Adjacent Neighborhoods, New Development, Existing Buildings, Housing, Public Awareness/Communications, Transportation, and Utilities. As a result, these planning issues are referred to throughout this report. However, the team found there are overlaps among several planning issues and therefore some strategies are associated with more than one planning issue. Incorporating input from stakeholders and residents (including the input summarized in this report), the presentation of the HCR Plan strategies was revised to improve clarity of the presentation.

The strategies in the HCR Plan are now associated with three "Domains":

- **Resilient Infrastructure** (e.g.., water, utilities, transportation, parks),
- **Resilient Buildings** (e.g., housing, commercial properties), and
- **Resilient Communities** (e.g., community preparedness).

Within each "Domain", the strategies are assigned to one of five "Primary Hazard Groups":

- Geological,
- Weather-Related,
- Combustion-Related,
- Biological & Toxic, or
- All Hazards.

Some strategies are associated with multiple key planning issues and are noted as such in the HCR Plan.

Community Engagement Goals

As part of the HCR Plan development, the City and County of San Francisco contracted with Raimi + Associates to lead a community engagement process that included 1) stakeholder engagement workshops and 2) a community survey. Both the workshops and survey were designed to:

- **Help the City understand people's experience with hazard events** to inform how to improve the response to future hazards;
- **Gather community feedback on draft plan strategies** to incorporate into the Hazards and Climate Resilience Plan; and
- **Educate stakeholder groups** about
  - Prioritized hazard issues and impacts for San Francisco,
  - Existing and planned work to increase resilience within San Francisco, and
  - Purpose and contents of the HCR Plan.

The community engagement process was designed to maximize the ways in which information gathered from community members can be used with the overall goal of improving City preparedness. Therefore, community members were invited to share feedback on hazard mitigation strategies, as well as on emergency preparedness and response. San Francisco's HCR Plan will help the City meet multiple requirements, including the U.S. Federal Emergency Management Agency (FEMA) requirement that local hazard mitigation plans be updated every five years. Once the HCR Plan has been finalized, the City will update the Safety Element of the General Plan accordingly, which will fulfill the State's SB 379 requirements to incorporate climate vulnerability and resilience into General Plans. The HCR Plan will also help the City meet the goals of the 2016 Paris Agreement as part of a global commitment via the C40 (along with almost 100 other cities).

Community Engagement Highlights

Solutions Need to be Diversified, Multi-Pronged, and Coordinated. The most common theme from community engagement was that **there is no "one-size-fits all" solution** to addressing any of the hazards that may impact San Francisco. Workshop participants emphasized the importance of using different strategies to effectively engage with, communicate information to, and provide resources to the City's diverse communities. Workshop and survey participants also recognized the complexity and interdependence of the City's buildings, infrastructure, and economy, as well as how all of those impact residents.

Most Concerning Hazards. The vast majority of survey and workshop participants reported being the most concerned about **earthquakes** and **poor/unhealthy air quality**. Additionally, one of five survey respondents identified the following as one of the three hazards they are most concerned about: **disease outbreaks**, **urban fires**, **drought**, **extreme heat**, and **flooding**. Some workshop participants discussed concerns about **hazardous materials** and **tsunamis**.

> Anything that paralyzes the city is of concern to me.
>
> Survey Respondent

Support for Improving Resilience of Key City Assets. Nearly all survey and workshop participants agreed that it is important for the City & County of San Francisco to improve the resilience of **infrastructure** (e.g., utilities and transportation), **buildings** (including housing, existing buildings, and new development), and **communities** (e.g., community connections, neighborhood preparedness).

Only **half** of survey respondents said they **know their neighbors well enough to help each other in an emergency.**

Importance of Community Cohesion. Workshop participants emphasized the importance of strengthening **relationships and interactions within individual neighborhoods**, at the **block-by-block** level, **within large multi-unit buildings**, and **through face-to-face social networks**. Only half of survey participants said they know their neighbors well enough to help each other in an emergency. Increasing relationships and connections between neighbors and community members helps ensure that vulnerable residents stay safe during and following a hazard event, as traditional communication and outreach strategies will not reach everyone. This may require expanding support for community-serving organizations that address neighborhood resilience).

Information about Hazards and Emergency Preparedness. Most survey participants get information about hazard events from **AlertSF** and/or **social media**, while some rely on **television**, radio, and **personal contacts** (i.e., friend, family member, neighbor). Workshop participants also identified specific methods and types of media that will be especially effective at reaching specific populations. Workshop participants were excited about the maps that will be shared with the Hazards & Climate Resilience Plan and how they and other community members will be able to use them to prepare for the specific types of hazards which they are likely to experience.

Level of Preparedness. Most survey respondents believe that they and the people they live with are prepared for extreme heat days, earthquakes, and poor/unhealthy air quality days, while fewer are prepared for flooding. At the same time, **more survey respondents felt that their housing in San Francisco would be a safe place to stay during flooding and extreme heat** while **fewer felt it would be safe place during a poor/unhealthy air quality day or earthquake.** Workshop participants **requested more concise**

Photo credits. *Left:* Alamy, photograph following 1989 Loma Prieta earthquake via Huffington Post <https://www.huffpost.com/entry/san-francisco-earthquake-safety_n_2475044>. *Center*: Jeff Elder via Instagram, 2012 <https://www.instagram.com/p/SvaH2MDCLP/>. *Right*: Pavel Fedorov via SFGate.com, 2018. <https://www.sfgate.com/california-wildfires/article/camp-fire-smoke-air-quality-bay-area-mask-n95-pics-13406212.php#photo-16530117>.

information about how the organizations, businesses, and facilities in which they work should prepare for emergencies with specific recommendations based on location in the city and the people served (e.g., how much water an afterschool program should store on-site relative to the number of children served, what supplies are most important for managers of single-resident occupancy/SRO hotels to have available).

Experience with the Impacts of Hazards in San Francisco. More than half of survey participants shared how they, their homes, their workplaces, and their neighborhoods had been impacted by **poor/unhealthy air quality**, **extreme heat**, and **earthquakes**. Many respondents also reported how wind, storm flooding, hazardous materials, and urban fires have impacted them and their communities.

Making Emergency Response More Efficient, Effective, and Equitable. Workshop participants made the following recommendations to improve response to future hazards:

- **Designate trusted facilities in all neighborhoods** where residents can go to be safe during or following a hazard and to get information and other resources—and **publicize that information** at the hyper-local level.
- **Increase coordination between City agencies and departments** around responding to hazards and in proactively sharing information (including client data) about vulnerable populations.
- **Leverage** the resources, connections, and skills of **local businesses**, local **technology companies**, **community-based organizations**, and **regional partners** to support a more efficient, effective, and equitable response to emergencies.

Feedback on Draft HCR Plan Strategies.

- Revise language to **include all critical facilities** involved in a given strategy.
- Address where lower-income residents may be able to live following a major hazard event given that recovery can take years and add more strategies to **address the vulnerabilities both of low-income renters and homeowners.**
- Consider expanding **"extreme heat events" to be "extreme temperatures"** since cold weather is a safety issue for residents who are homeless.

> [I am] extremely concerned about an earthquake and the potentially devastating impact it would have on the housing stock.
>
> Survey Respondent

Community Survey

Methodology

The Hazards & Climate Resilience Plan survey was available online in English, Spanish, Chinese, Filipino, Russian, and Korean, as well as via print-ready PDFs for community organizations to share with community members more likely to respond to a paper survey. The survey consisted of 20 questions focused on hazards and 7 demographic question and took participants 5-10 minutes to complete.

Community members were invited to participate in the online and paper survey between July 9, 2019 and September 18, 2019. The survey was advertised through emails, announcements at the stakeholder workshops, and via City social media accounts. All individuals who attended any of the stakeholder workshops and/or were invited to participate were sent the survey information to share with their colleagues, community members, and populations served by each of their agencies/organizations. City agencies and individual employees also encouraged their networks to participate in the survey. The survey was also disseminated through a number a resilience-related networks, including the Neighborhood Empowerment Network, Sustainable Chinatown, and SF Public Library's Green Stacks.

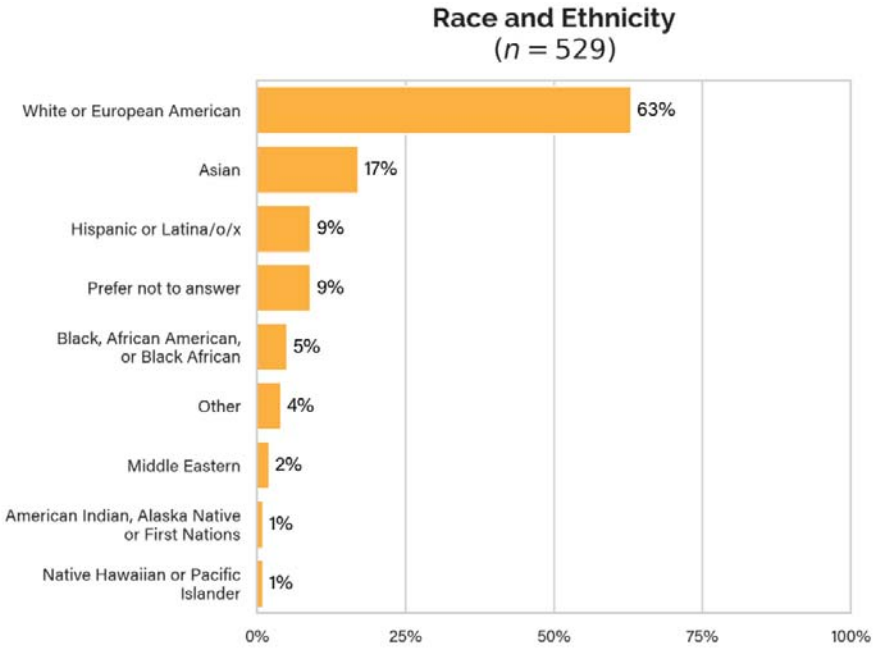
The survey had a total of **597 responses**: 533 completed and 64 partially completed surveys.

While the survey findings provide important information about the experiences, perceptions, and preferences of community members, the survey did not use a statistically random sample and **participants are not representative of all San Franciscans.** Because of how the survey was distributed, respondents were **more likely to be connected to City departments** or services and therefore **have a higher level of knowledge about and trust in local government** than the average community member. They may also have had a **greater familiarity with hazards and/or climate resilience** than the general public.

Respondent Profile

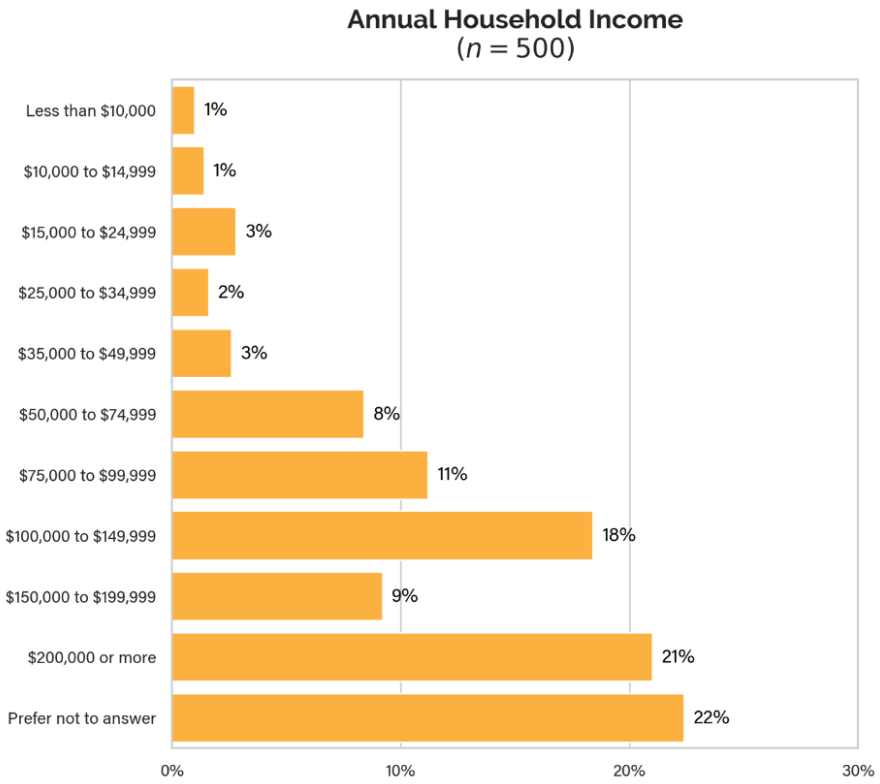
Race/Ethnicity

Survey respondents were **predominantly white or European American** (63%), with the **next most common race/ethnicities being Asian** (17%), **Hispanic or Latina/o/x** (9%), and **Black, African American, or Black African** (5%). Additionally, 9% of respondents indicated that they preferred not to identify their race/ethnicity.



Household Income

The **vast majority of respondents reported an annual household income of $50,000 or higher** (68%), with 10% making less than $50,000 and 22% indicating they preferred not to report their annual household income.



Age

Nearly two out of five respondents were 30-49 years old (38%), while another two out of five were 50 or older (42%).

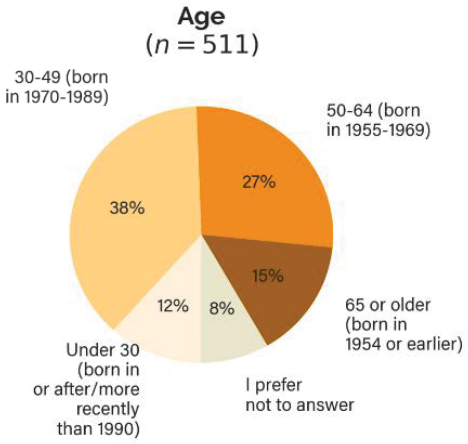
Housing Status/ Tenure

Just over half of respondents (55%) identified as owning the home in which they live, while 45% reported renting their home and less than 1% reported not currently having stable/permanent housing.

Disability

Of the **one in five** respondents with a **long-term physical condition that limits their activities**, the most commonly identified types of difficulties were as follows:

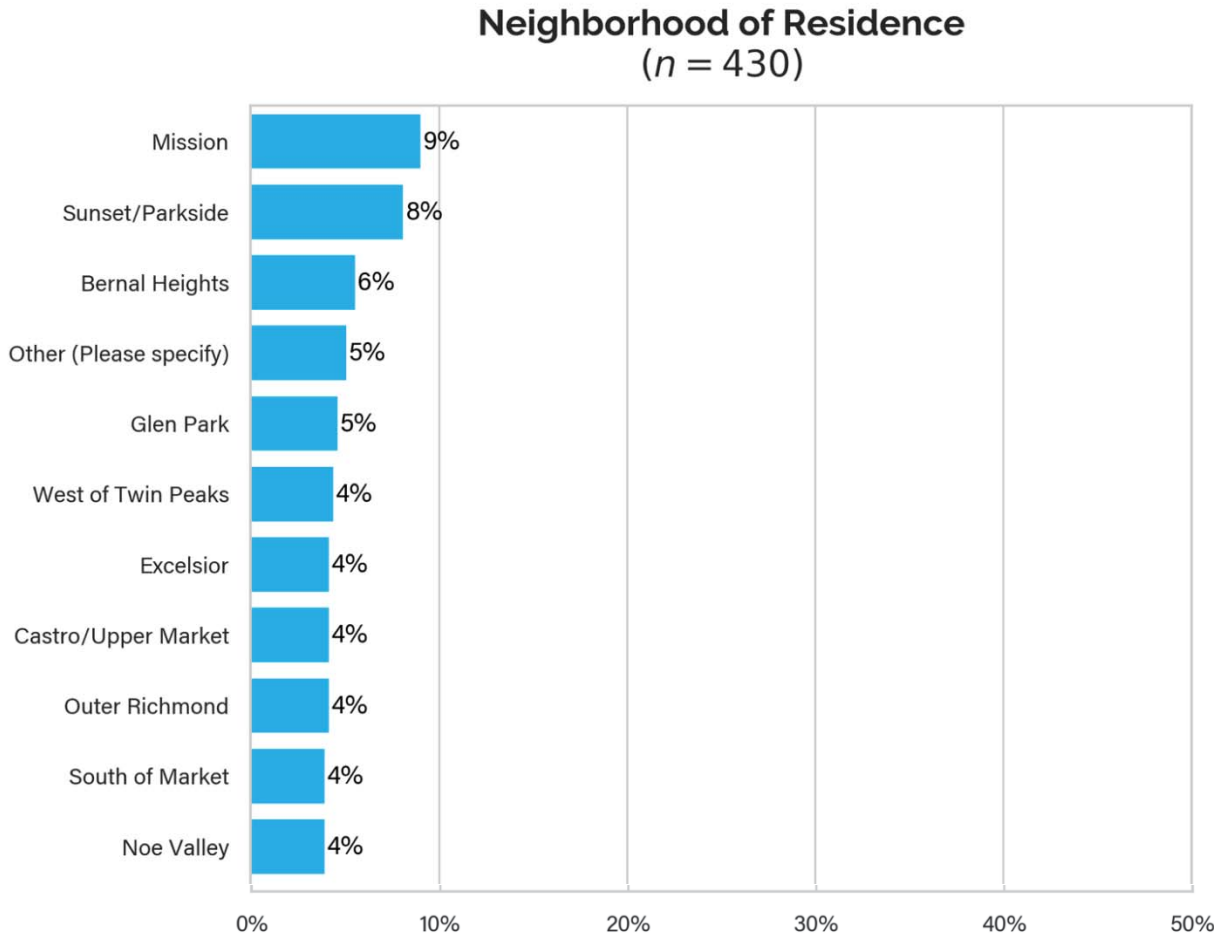
- Ambulatory: Having a serious difficulty walking or climbing stairs (37%);
- Hearing: Deaf or having serious difficulty hearing (22%);
- Cognitive: Because of a physical, mental, or emotional problem, having difficulty remember, concentrating, or making decisions (14%);
- Vision: Blind or having serious difficulty seeing, even when wearing glasses (13%);
- Self-care: Having difficulty bathing or dressing (8%); and
- Independent living: Because of a physical, mental, or emotional problem, having difficulty doing errands alone such as visiting a doctor's office or shopping (6%).



Because only respondents who reported having a long-term physical condition that limits their activities were asked what kinds of difficulties they had, the percentages reflect only those respondents who answered this question (n=86, 16% of all respondents).

Where Respondents Live

Respondents reported living throughout San Francisco and represented a wide range of neighborhoods. The largest percentages of respondents reported living in the Mission (9%), Sunset/Parkside (8%), Bernal Heights (6%), another neighborhood not listed (5%), Glen Park (5%), West of Twin Peaks (4%), Excelsior (4%), Castro/Upper Market (4%), Outer Richmond (4%), South of Market (4%), and Noe Valley (4%).



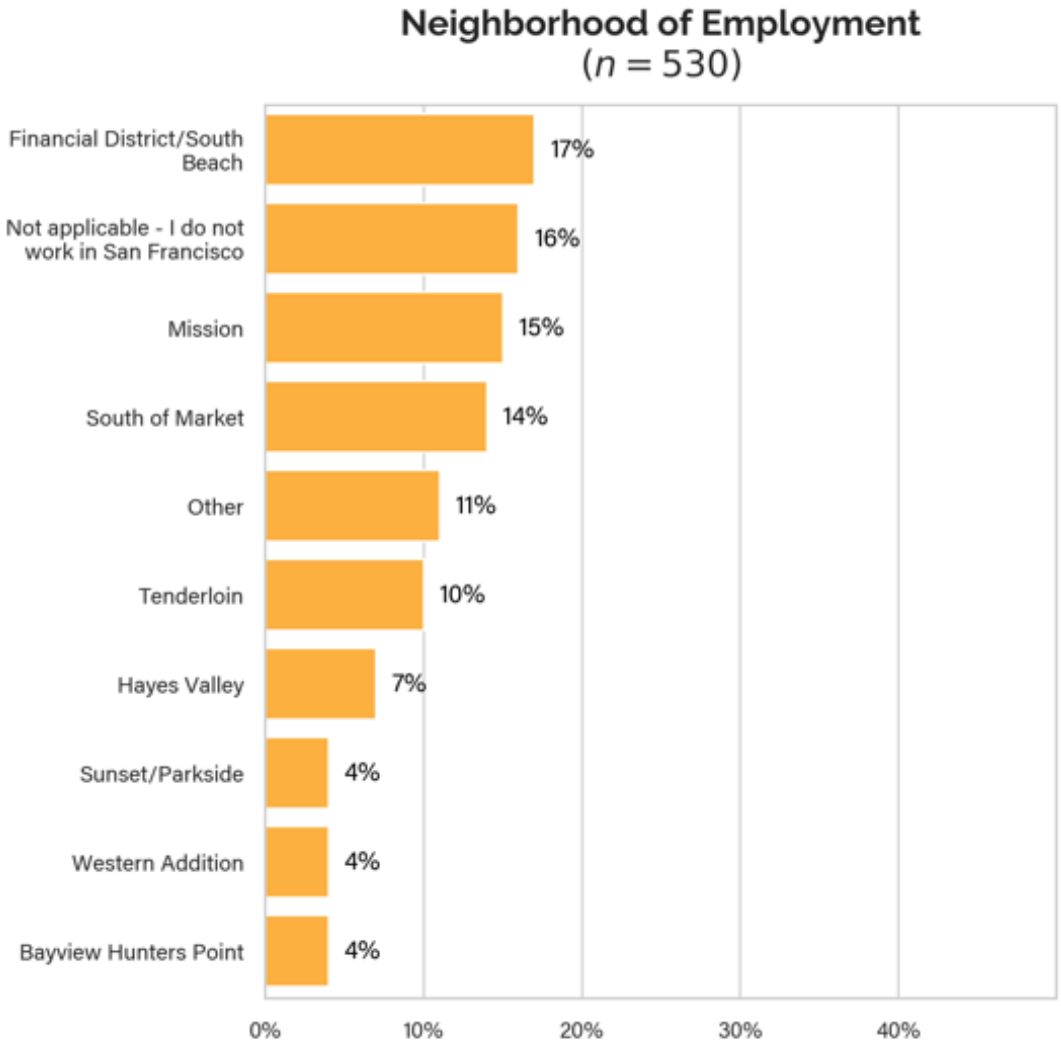
Fewer than 4% of respondents reported working in the following neighborhoods:

- 3%: Hayes Valley, Inner Richmond, Inner Sunset, Nob Hill, Potrero Hill, and Western Addition.
- 2%: Bayview Hunters Point, Haight Ashbury, Lone Mountain/USF, Marina, North Beach, Oceanview/Merced/Ingleside, and the Tenderloin.
- 1%: Financial District/South Beach, Mission Bay, Outer Mission, Pacific Heights, Portola, Russian Hill, Treasure Island, Twin Peaks, and Visitacion Valley.
- Less than 1%: Japantown, Lakeshore, and Presidio Heights.

No respondents reported living in Chinatown, Golden Gate Park, Lincoln Park, the Presidio, or Seacliff.

Where Respondents Work

Respondents were **also diverse in the neighborhoods in which they work**, representing a wide range of neighborhoods. The largest percentages of respondents reported living in the Financial District/South Beach (17%), the Mission (15%), South of Market (15%), another neighborhood not listed (11%), the Tenderloin (10%), Hayes Valley (7%), Sunset/Parkside (4%), Western Addition (4%), and Bayview Hunters Point (4%). Additionally, 16% reported that they did not work in San Francisco.



Fewer than 4% of respondents reported working in the following neighborhoods:

- 3%: Castro/Upper Market, Chinatown, Inner Sunset, Mission Bay, Noe Valley, Outer Sunset, and Potrero Hill.
- 2%: Bernal Heights, Excelsior, Glen Park, Golden Gate Park, Haight Ashbury, Inner Richmond, Japantown, Lone Mountain/USF, Marina, McLaren Park, Nob Hill, North Beach, Oceanview/Merced/Ingleside, Outer Mission, Pacific Heights, Portola, Presidio, Treasure Island, Twin Peaks, Visitacion Valley, and West of Twin Peaks.
- 1%: Lakeshore, Lincoln Park, Presidio Heights, Russian Hill, and Seacliff.

No respondents reported working in the Outer Richmond.

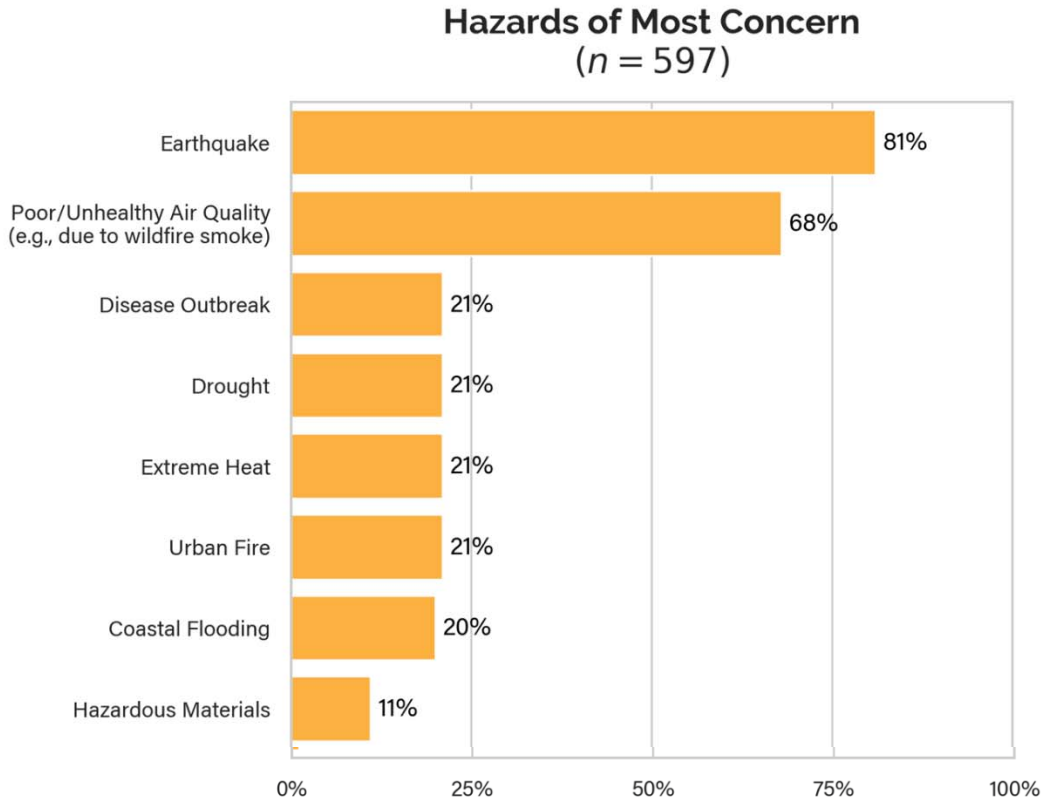
Natural Hazards in San Francisco

Respondents' Experiences with the Impacts of Natural Hazards

Most respondents reported having experienced the impacts of poor/unhealthy air quality (due to wildfire smoke) on their homes, streets, and neighborhoods (85%), as well as on their businesses and/or workplaces (67%). In addition to poor/unhealthy air quality, respondents identified **earthquake** and **extreme heat** among the issues that have impacted their homes, streets, neighborhoods, and businesses/workplaces. Almost half of respondents (42%) reported that **earthquakes** and **extreme heat** (39%) had impacted their homes, streets, or neighborhoods, while one out of three (34%) reported experiencing the impacts of **drought**. Between 10% and 20% of respondents had experienced the impacts of **wind**, **storm flooding**, **hazardous materials**, and/or **urban fires**.

Most Concerning Hazards

More than half of survey respondents identified earthquake and poor/unhealthy air quality in the top three hazards they are concerned about (81% and 68%, respectively). **One out of five** respondents identified each of the following in their top three hazard concerns: **disease outbreak, drought**, **extreme heat**, **urban fire**, and **coastal flooding** (20%-21% each). One out of ten respondents (11%) identified **hazardous materials** as one of their top concerns.



Urban fire at any unit on a block is always cause for alarm due to the age and proximity of wooden structures.

My house has survived many earthquakes and it could use a retrofit to survive the "big one" but our family doesn't have money for it.

Too many houses have knob and tube wiring, old corroded gas pipes, no firesafe materials.

Survey Respondents

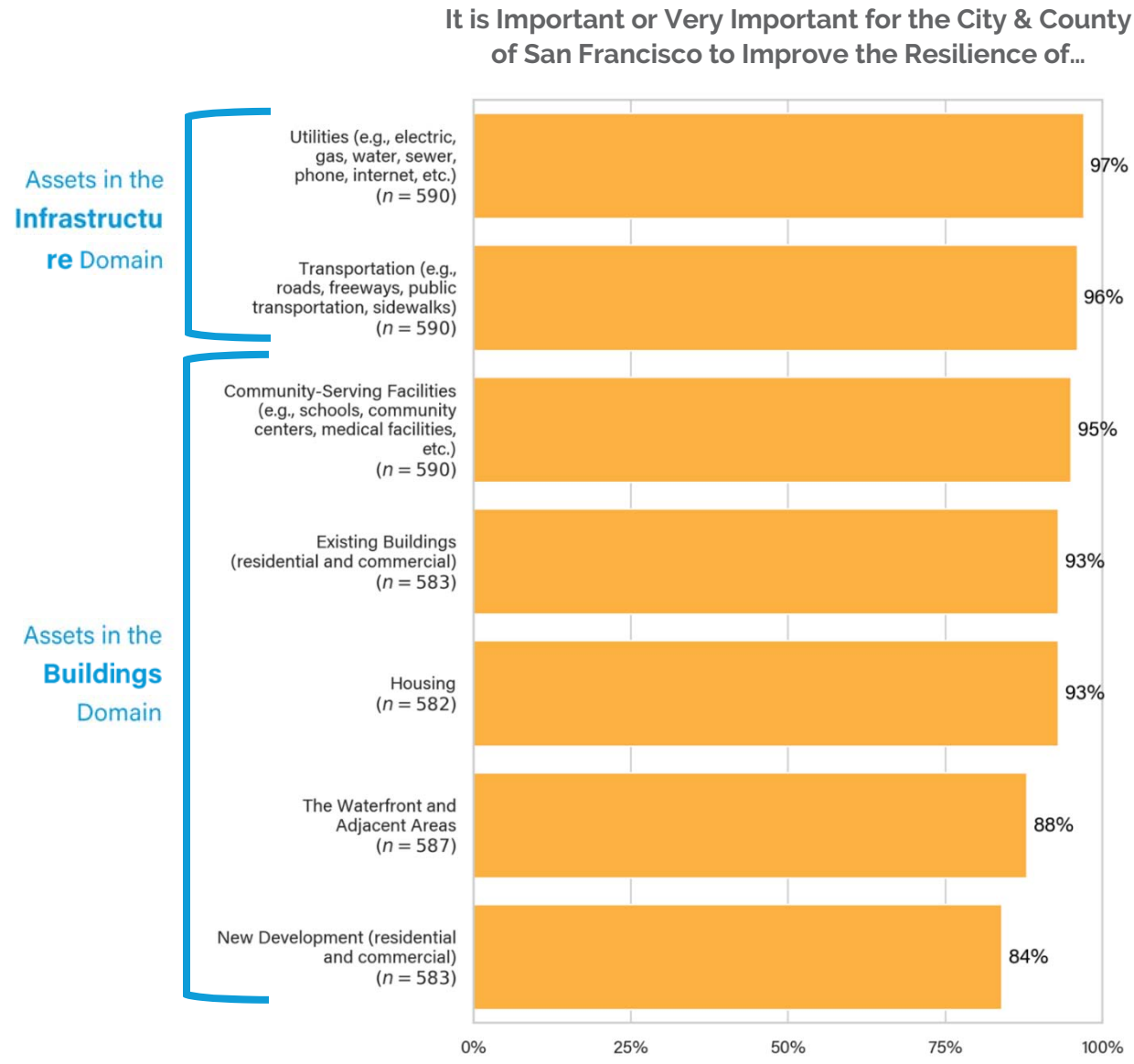
Clearly, coastal flooding will also be a problem soon.

Regular exercise by walking is important to control of my diabetes. Extreme heat makes exercise difficult, as does hypoxia due to difficulty breathing under smoky conditions.

Perceived Importance of Increasing Resilience of Key City Assets

As the graph on below shows, **nearly all survey participants reported that it was important or very important for the City & County of San Francisco to improve the resilience of the seven types of assets identified in the Hazards and Climate Resilience Plan survey.** At least 95% identified the importance of improving resilience of utilities, transportation, and community-serving facilities in San Francisco. Between 90% and 94% identified the importance of improving the resilience of existing buildings and housing.

As noted in the Methodology section, the survey did not use a statistically random sample and is therefore not representative. **People who learned about the survey and took the time to participate are likely to have a greater familiarity with hazards and/or climate resilience than the general public.**



Preparing for and Responding to Hazards

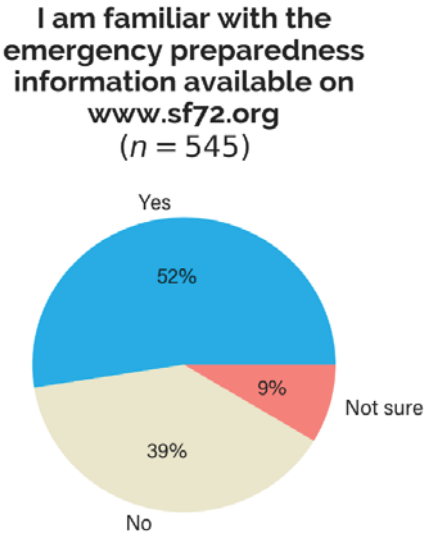
Level of Preparedness

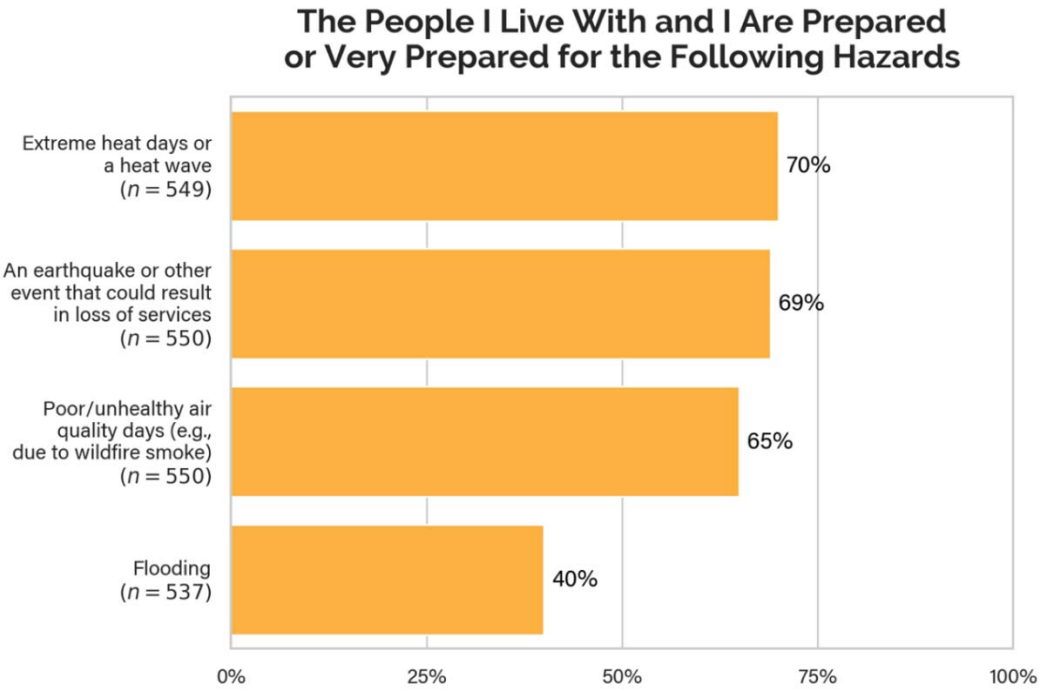
For the following data, remember that survey participants are likely to have a greater familiarity with City resources, hazards, and climate resilience than the general public.

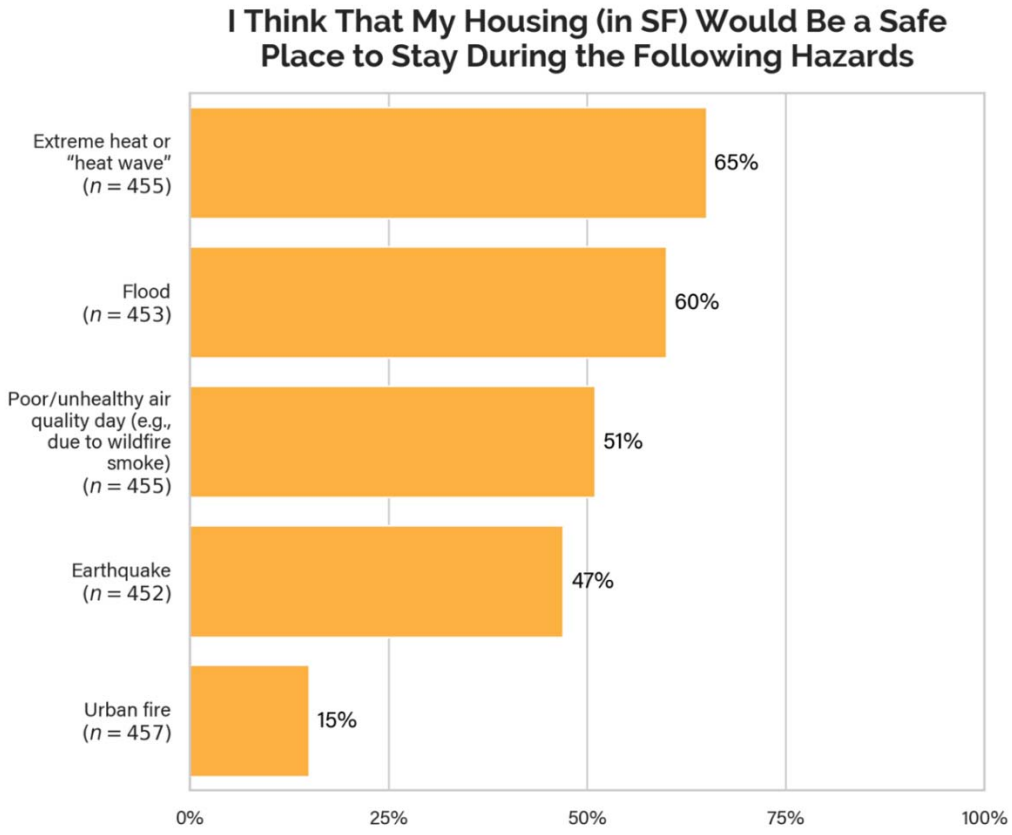
Just over **half** of survey participants (52%) reported being **familiar with the emergency preparedness information available at www.sf72.org.**

While **more than half of respondents reported that they and the people they live with are prepared for extreme heat events**, an **earthquake** or other event that could cause loss of services, and **poor/unhealthy air quality days** (70%, 69%, and 65%, respectively), less than half (40%) reported being prepared for flooding.

However, residents are **less likely to believe that their housing would be a safe place to stay** during an extreme heat event, poor/unhealthy air quality day, or earthquake. The only exception to this was that more respondents believed that their housing would be a safe place to stay during a flood.

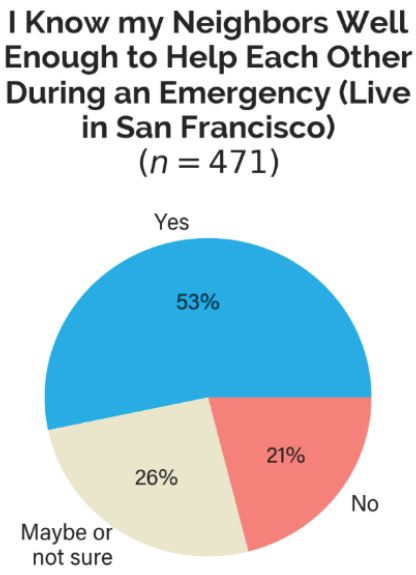


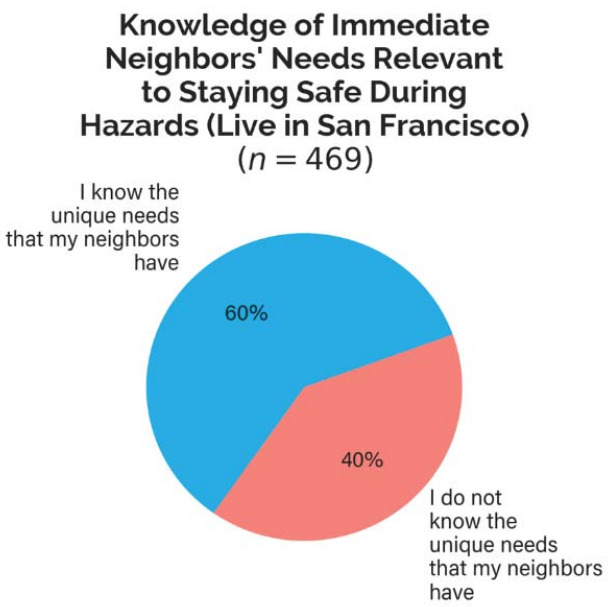




Familiarity with Neighbors

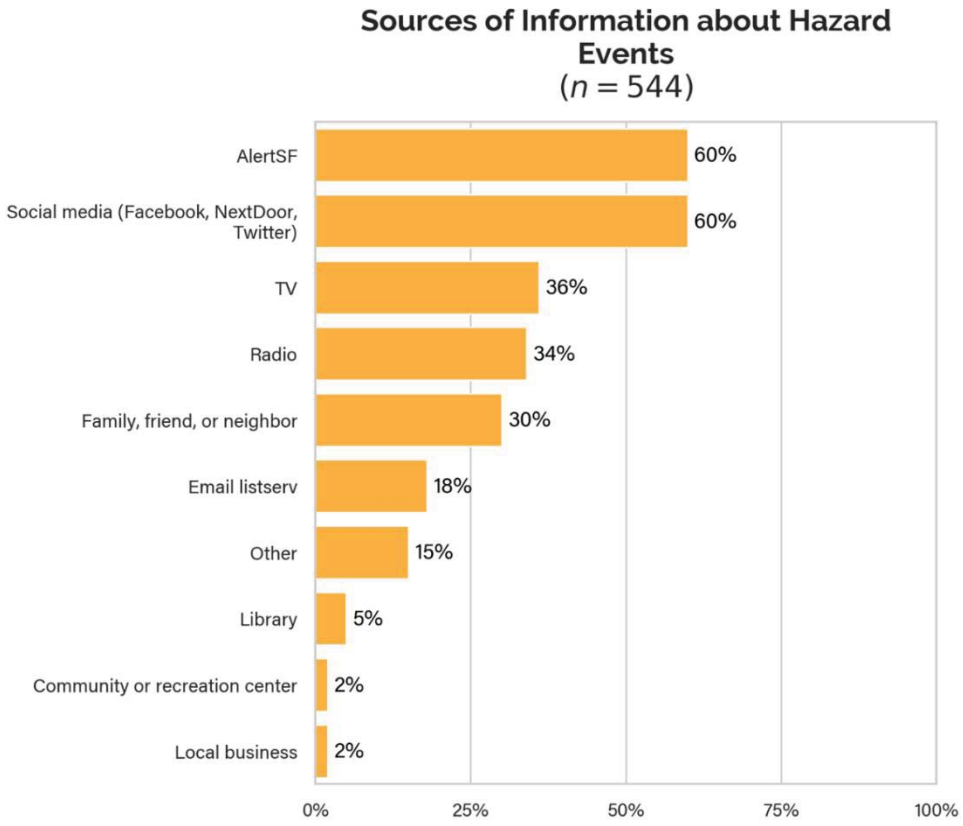
Slightly more than half of resident respondents reported knowing their neighbors well enough to help each other in an emergency (53%) and knowing the unique needs that their neighbors have (69%).





Sources of Information During Hazard Events

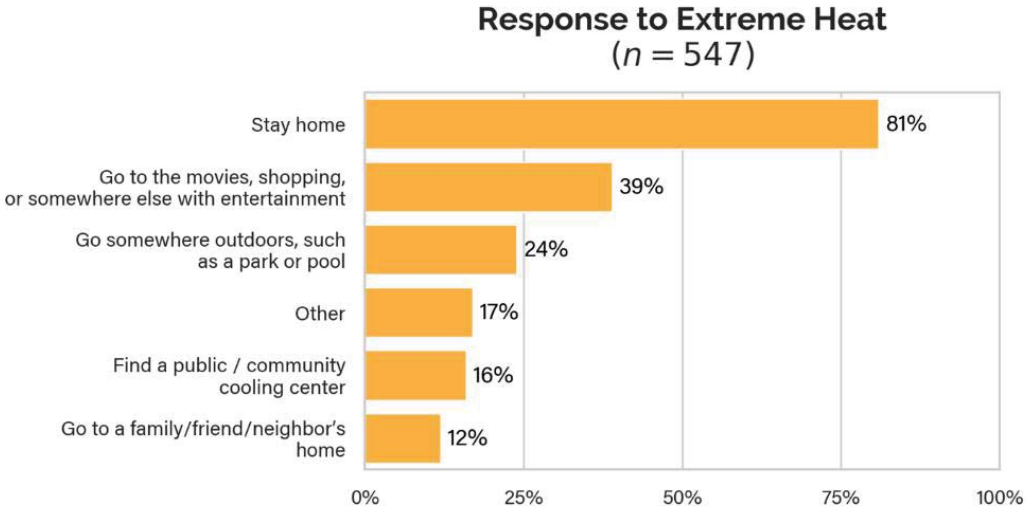
More than half of respondents reported getting information about hazard events from **AlertSF** and **social media** (60% for each). Approximately **one out of three reported getting information from television, radio, or family, friends, or neighbors** (36%, 34%, and 30%, respectively).



Three out of five respondents reported being signed up for AlertSF (59%, n=544)—although as has been noted, respondents are more likely to be connected to City resources than the general public.

Extreme Heat and Poor Air Quality Events

As is shown below, **four out of five respondents reported staying home during extreme heat events** (81%), while two out of five reported going to the movies, shopping, or somewhere else with entertainment (39%). One quarter reported going somewhere outdoors (24%) and fewer than 20% of respondents reported finding a public or community cooling center, going to a family/friend/neighbor's home, or going somewhere else (16%, 12%, and 17%, respectively). A few respondents reported that they use their car's air conditioning during extreme heat events because they do not have cooling in their home or



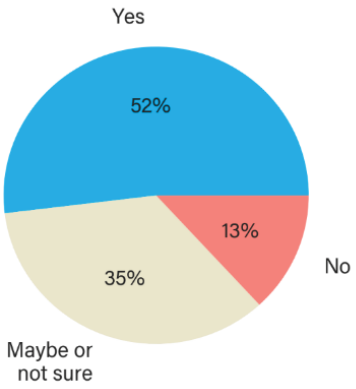
other easily accessible locations.

Half of respondents (53%) reported that during times of heat and/or poor air quality, a facility providing cleaner air and/or cooling would be useful, while 35% reported they were not sure if it would be useful. Only 13% reported that such a facility would *not* be useful.

Of the respondents who reported that such a facility would *not* be useful or that they were *not sure* if it would be useful, the four most common reasons identified were:

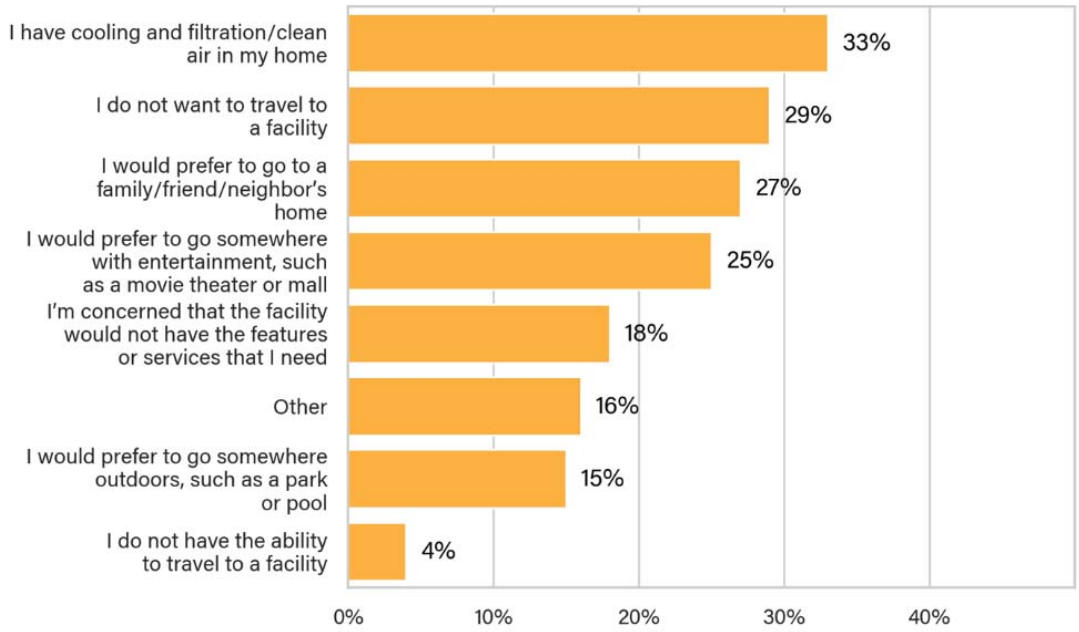
- **Having cooling and filtration/cool air in their home** (33%),
- **Not wanting to travel** to a facility (29%), and
- Preferring to go to a **family, friend, or neighbor's home** (27%), and
- Preferring to go **somewhere with entertainment** such as a movie theater or mall (25%).

During Times of Extreme Heat and/or Poor Air Quality, a Facility Would be Useful
($n = 547$)



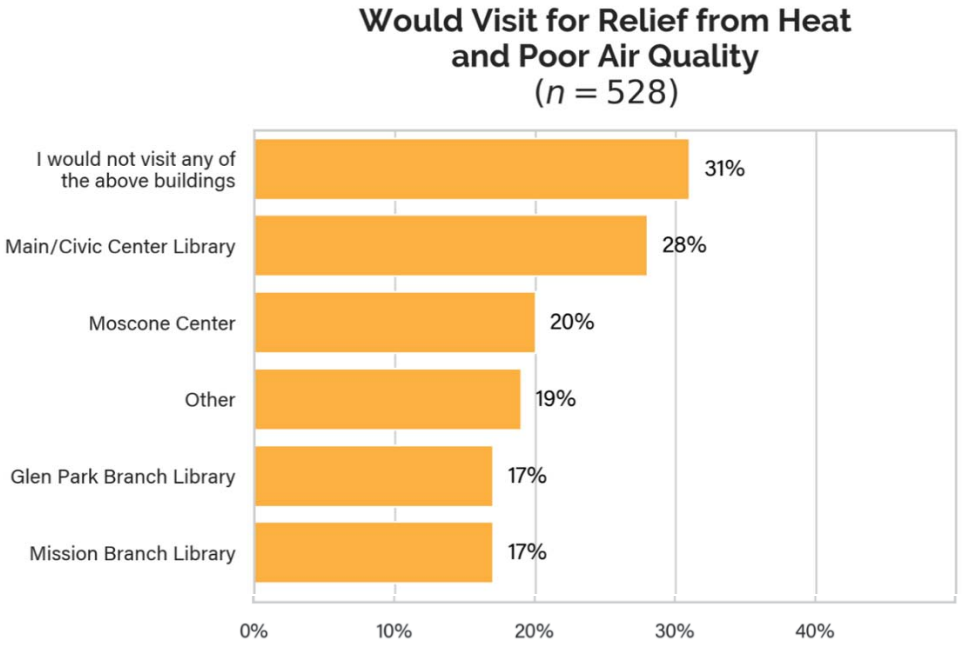
Survey respondents who reported that a facility would *not* be useful to them primarily identified the following reasons: **being concerned about the wellbeing of their pets** and that animals would not be allowed in a facility and **being concerned about such a facility being no better than their home or other places** (e.g., due to being crowed and thereby offsetting any cooling or filtration). One respondent also noted that they have a suppressed immune system and therefore need to avoid spaces with many people.

In Times of Extreme Heat and/or Poor Air Quality, a Facility Providing Cleaner Air and/or Cooling Would Not be Useful to Me Because…
($n = 291$)



Lower income survey respondents and respondents who are **renters** were ***more likely*** **to report that they would or might use a facility that provided cooling and/or cleaner air** (compared to higher income respondents and respondents who live in a home they own). Additionally, **survey participants *without* a disability or other access/functional need(s) were *more likely*** that participants with disabilities **to report that they would or might find a facility with cooling and/or filtered air to be useful.** Furthermore, **lower income respondents were *more* likely to report that they would "prefer to go somewhere with entertainment,** such as a movie theater or mall" rather than a facility providing cleaner air and/or cooling: 33% for lower income respondents (n=131) compared to 13% for higher income respondents (n=67). However, lower income respondents were *less* likely to report being "concerned that the facility [providing cleaner air and/or cooling] would not have the features or services that I need": 13% for lower income respondents (n=131) compared to 24% for higher income respondents (n=67).

The facilities most commonly identified as ones which respondents would visit for relief from heat and poor air quality were the Main/Civic Center Library (28%), Moscone Center (20%), Glen Park Branch Library (17%), and Mission Branch Library (17%).



Less than 15% of survey respondents indicated that they would visit the following places for relief from heat and poor air quality: African American Art & Culture Complex, Mission Cultural Center, Pier 1, Bayview Opera House, Potrero Branch Library, North Beach Branch Library, Mission Bay Branch Library, Park Branch Library, Presidio Branch Library, Ortega Branch Library, Veterans Building, Chinatown Branch Library, and Visitacion Valley Branch Library.

Facilities not listed on the community survey but that respondents identified (via write-in response) as places they would visit for relief from heat and poor air quality included: Bayview YMCA, Bernal Rec Center, CCSF Chinatown, CCSF Mission Campus, City Hall, Coffman Pool, Eureka Valley Rec Center, Garfield Rec Center, Glen Park Rec Center, and the Harvey Milk Rec Center, as well as the following branch libraries: Anza, Bayview, Bernal Heights, Eureka Valley, Excelsior, Golden Gate Valley, Ingleside, Marina, Noe Valley, Parkside, Portola, Richmond, Sunset, and West Portal.

Stakeholder Meetings

Overview

The series of **five stakeholder workshops** held in July 2019 built on a focus group/working meeting held with representatives of community-based organizations in February 2019. The July 2019 workshops were held to gather feedback from the following five groups of stakeholders with specific perspectives related to their interests and/or the needs of vulnerable populations within San Francisco. The stakeholder groups are listed in the order in which the workshops took place.

The **80 people** who participated in the five workshops **represented 69 organizations, agencies, and businesses** in San Francisco.

Stakeholder Group	Examples of Unique Perspectives for Each Group
Stakeholders for **Businesses and Commercial Properties** (non-residential)	• Provided feedback on relative effectiveness and likely impacts of incentivizing or mandating specific strategies (e.g., weatherizing buildings, installing solar panels and storing energy on-site), including for small businesses • Identified challenges and opportunities to partner with businesses in implementing strategies
Housing Stakeholders **and Residential Property** Managers/Owners	• Provided feedback on relative effectiveness and likely impacts of incentivizing or mandating specific strategies (e.g., installing or upgrading HVAC systems, communicating about hazards to residents/tenants) • Identified challenges and opportunities for implementing strategies in supportive housing
Community Leaders and Stakeholders Representing **People with Disabilities (Access or Functional Needs) and Older Adults**	• Identified unique needs when responding to hazards (e.g., to charge motorized wheelchairs' batteries, to maintain power for residents with assisted respiration) • Emphasized the need to ensure that communication is accessible to people with a range of different disabilities
Racial, Social, and Environmental Justice Organizations	• Emphasized the need to set up processes prior to a hazard to ensure that critical information about hazards reaches *and* is easily understood by low-income, immigrant, homeless, and other vulnerable communities • Provided additional information on how hazards impact vulnerable, disenfranchised, and under-resourced communities, as well as critical needs for these communities
Organizations Serving **Children, Youth, and Families**	• Identified challenges in keeping young people of different ages groups safe during and immediately following a hazard • Identified challenges and opportunities for implementing strategies in schools and out-of-school programming (e.g., summer camps, afterschool care)

At each stakeholder workshop, participants heard a presentation from the HCR Plan Community Engagement Committee on the purpose and steps of the planning process and example findings from vulnerability assessments conducted by City staff to estimate impacts of specific hazards in different areas of the City and critical assets (e.g., schools, waste treatment facilities, light rail) located in high risk areas.

They were then invited to share personal experiences and to suggest how the City could improve communications around the response to hazards. Finally, participants reviewed and provided feedback on the draft strategies for the HCR Plan.

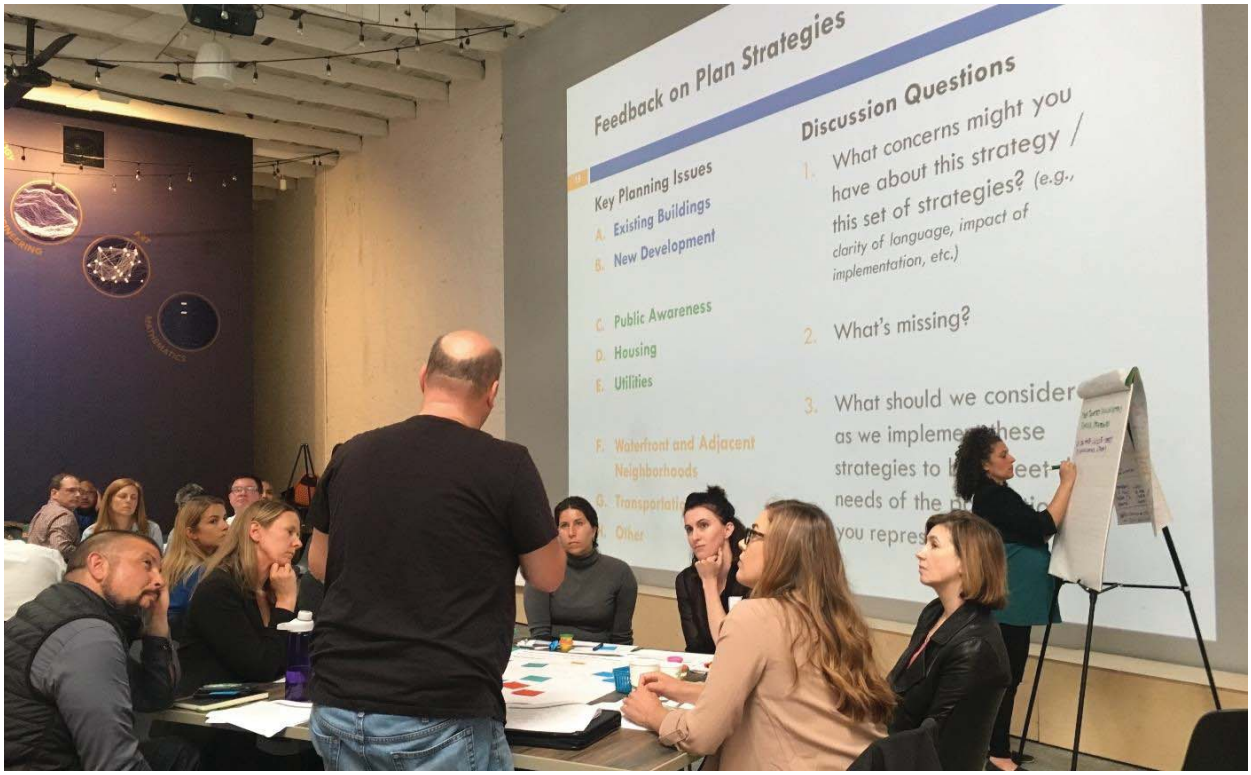
Importance of Preparing for Specific Natural Hazards

In their small group discussions, all five stakeholder groups emphasized the importance of improving preparedness and responses related to **earthquakes**, **tsunami**, **heat**, **poor air quality**, and **flooding**. Stakeholders representing organizations focused on housing, racial/environmental/social justice, and children, youth, and families also expressed concerns about **hazardous materials.** None of the five stakeholder groups focused on the impacts of **wildfire** (except for its impact on air quality), **wind**, **reservoir/dam failure**, **urban conflagration**, **disease outbreaks**, **landslide**, or **drought**. A few participants in the stakeholder groups representing people with disabilities and older adults and racial, environmental, and social justice encouraged the City to revise the hazard of "extreme heat events" to be "extreme weather events" or "extreme temperatures," recognizing how cold weather is a health and safety issue for residents who are homeless.

Stakeholder Feedback on Draft HCR Plan Strategies

After reviewing the draft strategies for each planning issue for the HCR Plan, participants were invited to share:

- Any **concerns or questions** they had related to a single strategy or set of strategies,
- Anything they thought was **missing**, and
- **Ideas for how the City might implement strategies** in a way that addressed the needs of the population(s) stakeholders represented.



Themes Across Stakeholder Groups

Stakeholders consistently expressed their **interest in learning more about the hazard risks relevant to the neighborhoods in which they work** as well as the City's **recommendations (or general best practices) to prepare** for the hazards they are most likely to experience. Many participants were excited to learn that the HCR Plan would include **maps with citywide risks and vulnerabilities**. Many participants also wanted to know what the City considered to be **key community facilities** (both which specific facilities and more general types of facilities).

Recognizing the significant impacts that some hazards will have and the many jurisdictions that will be involved in recovering from such hazards, **participants emphasized how important it is for the City to support and participate in coordinating planning between City departments, with overlapping jurisdictions** (e.g., SFUSD, SF Port, National Park Service), with neighboring jurisdictions (e.g., Marin County, Daly City, San Mateo County, Alameda County), and potentially with geographically remote partners (for example, to provide supportive housing while the City and region recover from a major earthquake).

Workshop participants agreed that **resources should be prioritized for and directed to vulnerable populations and the critical facilities that serve those populations.** However, different stakeholder groups had **different ideas of what populations are most vulnerable and what types of facilities are "critical."** Participants in most workshops identified the **importance of involving Single-Room Occupancy hotels (SROs) and temporary shelters,** as well as residents who are currently experiencing homelessness, in the implementation of resilience strategies.

Strategies within the *Resilient Infrastructure* Domain

Related to Strategies for Transportation

- Stakeholders in all workshops noted the **absence of strategies focused on or involving Transportation Network Companies (TNCs)** (e.g., lyft, uber) **and other sharing models** (e.g., short-term rental bicycles and electric scooters). People suggested that TNCs be regulated to **avoid surge pricing during a disaster** and to prioritize more vulnerable people first and encouraged the City to **coordinate proactively** with companies around unlocking bicycles during emergencies or extended power outages to aid residents.

Related to Strategies for Utilities

- Participants expressed **concern about how sanitary sewage and human waste collection/disposal would be managed in a major hazard event** and recommended that the strategy be expanded to include the entire City (rather than focusing on SFO).

Strategies within the *Resilient Buildings* Domain

Related to Strategies for the Waterfront and Adjacent Neighborhoods

- Stakeholders in each workshop expressed concerns about additional sites and facilities **beyond those called out in the draft strategies** (e.g., SFO, the zoo). They **identified additional key community facilities,** including the new MTA facility near Islais Creek, AT&T Park, Pier 39, Recology facilities on the waterfront, navigation centers for homeless residents, and storage facilities/caches containing emergency supplies for the City and the Red Cross.

Photo credit: Michael Filippoff via KQED < https://ww2.kqed.org/quest/2013/07/16/wetlands-horizontal-levees-sea-level-rise/>.

- Participants in most workshops questioned whether the strategy, "Continue to implement the Ocean Beach Master Plan to address sea level rise at the southern end of Ocean Beach" was intended to focus on the waste treatment plant located next to the zoo. They **recommended that the waste treatment/sewer treatment plant be specifically identified in either this or another strategy.**

Related to Strategies for New Development

- All stakeholder groups recognized that **new development can play a critical role in resilience** and encouraged the City to maximize these opportunities. In addition to building standards that make new construction more resilient and able to withstand hazards, participants identified opportunities for new development to include **dedicated storage space for emergency equipment and supplies**, to function as a **temporary shelter or respite facility** (e.g., as a cooling center), and/or to include **climate resilience initiatives within Community Benefit Agreements.**
- Stakeholders shared that **many new developments in the City do not address the needs of the current community** and long-term residents—especially the most vulnerable populations. T**he use of and services provided by buildings also contribute to the resilience of San Francisco.**

Related to Strategies for Existing Buildings

- Workshop participants shared concerns about how the implementation of some costly strategies may be funded (or may be mandated without funding or financing available to assist property owners). In particular, many participants in multiple workshops expressed **how challenging it would be for their business, organization, or property to make some of the improvements to existing buildings without financial assistance.** Participants indicated that incentivizing property owners to make certain improvements would have some success but would also leave many buildings unaltered. Nonetheless, participants in all stakeholder group **recognized the importance of making existing buildings more resilient** (and expressed support for these strategies). A few people encouraged the City to focus on improvements that were the best **balance between most effective and lowest cost** (or with cost savings to offset initial expenses, as can happen with solar energy storage), with the potential to shift foci as new innovations and technologies become available or have demonstrated success.

- Recognizing the large population of renters in San Francisco and the extremely high cost of housing, **stakeholders in all workshops identified concerns about the displacement of renters whose housing units are damaged in a hazard.** People noted that it often takes two or more years for buildings that are damaged in a major disaster to be made safe for occupancy. **Many residents who are low income** (including those living on fixed incomes such as Social Security) and/or have physical disabilities **may not be able to afford to stay in the region** during the lengthy rebuilding process. While participants also recognized that **low income homeowners also face significant challenges** in responding to a hazard, the most consistent feedback focused on the **need for strategies that address renter vulnerabilities following a major disaster** (e.g., mid-term housing, process for displaced residents to return).
- **Stakeholders also expressed concern that the costs** of improving the resilience of existing buildings (e.g., seismic retrofits, weatherization) **would be passed on to tenants with limited resources.**

Related to Strategies for Housing

- Many participants supported the strategy of **enhancing existing home visiting programs by integrating emergency preparedness education and supplies** into the work. They also suggested that **City staff might help assess home safety with a focus on the specific age-related concerns** of a unit's resident(s).

Strategies within the *Resilient Communities* Domain

Related to Strategies for Public Awareness & Communications

- All stakeholder groups emphasized the **need to leverage existing networks and resources to communicate information about hazards**. They also identified many existing organizations, associations, and informal networks that could help disseminate critical information prior to and during a hazard. At the same time, all stakeholder groups recognized the **challenge of communicating with those members of vulnerable populations who are isolated and not connected to existing resources or networks**. Participants also widely supported increasing **resources to increase community cohesion and connectedness at the hyperlocal level** (i.e., neighbor to neighbor, within a large building or on a single block).
- Participants expressed **consistent support for expanding targeted emergency preparedness trainings** like NERT. They recommended that NERT **engage community anchor organizations and the tenants of large multi-unit buildings in addition to their traditional focus on individual residents.** This would allow training participants to identify additional preparation that they need (for example, including clinically trained staff in emergency response planning to ensure that residents with serious mental illnesses are supported and participate in evacuations). Some hazard mitigation efforts could also be targeted to engage residents of key areas (for example, targeting outreach for the Adopt a Drain program to areas prone to stormwater flooding). Participants recommended a **multi-pronged approach** of having the City take the lead on communicating the importance of the issue, leveraging community organizations and leaders to engage diverse residents, collaborating with faith communities and other networks to disseminate information, and developing the skills and leadership of residents over time.

Feedback Unique to Each Stakeholder Group

Each stakeholder group contributed some unique concerns, feedback, and suggestions, including some that may be applicable to other stakeholder groups or to the general population.

Stakeholders for Businesses and Commercial Properties (non-residential)

Participants in this workshop made the following suggestions:

- Implement strategies so they **align with consumer demands** (for example, pairing solar energy and electric vehicle (EV) charging stations).
- **Streamline the permitting process** for buildings to make resiliency-related improvements.
- Be more specific about **differences in how strategies will be implemented with key community facilities that are owned by the City and those that are privately owned.**
- **Scale smart microgrid energy storage and energy distribution** based on what will be most efficient and cost effective (i.e. implement pooled backup storage instead of storage for individual buildings).
- **Provide incentives** for building owners to implement solar energy storage.
- Require commercial buildings in San Francisco to **participate in BORP (Building Occupancy Resumption Plan).**

Business and Commercial Property Stakeholders also asked about:

- How downed power and/or communications lines in public rights of way factored into the vulnerability analyses,
- How power demands would be managed during rolling brownouts, and
- What the City's strategies or recommendations are related to water capture from (or for) plumbing systems during an emergency.

Housing Stakeholders and Residential Property Managers/Owners

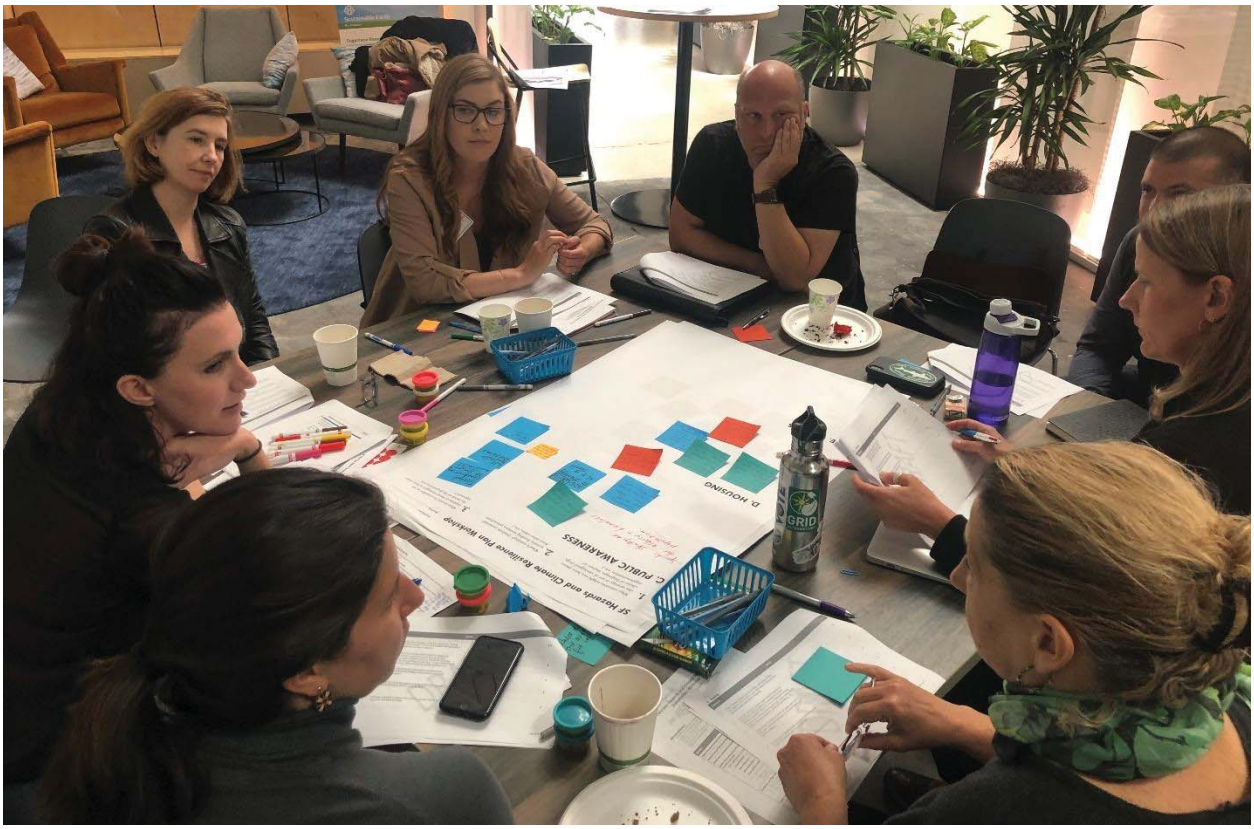
Housing stakeholders suggested that the City provide assistance to supportive housing facilities and other housing for vulnerable populations (e.g., SROs, retirement communities) in **developing resident leadership and skills around emergency preparedness and response,** with clearly identified roles and responsibilities for residents and employees.

Participants in this workshop also recommended that resilience-related building improvements should include improvements to **make stairwells safer** so residents can safely use them when elevators are not able to be used.

Community Leaders and Stakeholders for People with Disabilities or Access & Functional Needs and for Older Adults

Participants in this workshop made the following suggestions:

- **Elevate power outages as a hazard** and ensure that there is a reliable and proactive alert system for brownouts (from PG&E).
- When seismic assessments are done, conduct a **concurrent accessibility assessment** to identify buildings that will be challenging for people with disabilities to exit during some emergencies.
- Require that **residential facilities owned or contracted by the City** prepare and **update disaster response plans** for those facilities.
- Bring back **free public transit on Spare the Air Days.**
- Recognize and **plan for the unique energy/power needs of some people with disabilities** (e.g., people who use motorized wheelchairs, people who had devices that assist with respiration). For example, people who use motorized wheelchairs may need access to a battery charger that matches the battery in the model of wheelchair they have.



- Add a **strategy focused on accessible transportation.** This might involve developing an inventory of accessible vehicles and a coordinated plan to share available resources prior to a hazard. Accessible vehicles owned and operated by UCSF, hotels, paratransit, and SFUSD should be included in this inventory and plan in addition to MUNI vehicles and other City-owned vehicles.

Stakeholders for people with access and functional needs and older adults also expressed excitement about and emphasized the importance of the strategy to "Study the overlap between vulnerable populations and vulnerable residential buildings to focus future grant and incentive programs." For example, participants shared that many high-rise buildings that house seniors do not have generators or cooling systems, which is important to know during power outages and extreme heat events.

Stakeholders for Racial, Environmental, and Social Justice

Participants in this workshop asked:

- When will groundwater in Bayview be clean and how will that be communicated?
- What interactions should residents anticipate related to flooding for areas with toxic waste? How can communities prepare for this or mitigate these dangers?

Stakeholders for racial, environmental, and social justice also shared the following perspectives:

- **Some San Francisco neighborhoods are not well-served by public transit and/or don't have good transportation options.** This isolation increases vulnerability.
- **Buildings need air cooling systems but not necessarily air conditioning** (since the hydrofluorocarbons in air conditioners are so harmful to the environment and contribute to climate change). Supporting this may require **pilot testing alternative cooling technologies** or supporting the production of such technologies.
- Funding to support community resilience needs to **support community-based organizations** in doing (or continuing to do) the work to build resilience.
- Make sure that **Treasure Island** is considered and included in the implementation of strategies and planning for hazards.

Stakeholders for Children, Youth, & Families

Stakeholders for children, youth, and families shared the following perspectives:

- The strategies seem to focus more on protecting **revenue-generating physical assets** than protecting people/human life.
- Expanding public transit can help the city reduce its carbon footprint, but **riders** (especially low-income riders) **should not bear the cost for expanded transit service.**

Participants in this workshop also asked:

- Do evacuation routes and procedures recognize social conditions and geographies (e.g., gang territories)?
- What facilities are being prioritized for resilience-related renovations? Have communication plans been integrated into these analyses? Participants supported making seismic upgrades to schools to protect children and youth in the schools. They also expressed concerns about how communications would happen and how normal operations could resume if most SFUSD administrators are injured or killed in a major earthquake because the administrative buildings were not prioritized for renovations.

How to Improve Hazard Response + Communications

Stakeholders were invited to reflect on their experiences with natural hazards and share their ideas about how the City and/or community's response (before, during, and following the hazard) could be more efficient, more effective, and more equitable. Ideas addressed how the response to a hazard could happen more quickly, be better coordinated, prevent harm, communicate information more clearly, and better meet the needs of a specific vulnerable population. They were also asked about how to effectively communicate with and engage the groups participants represented.

Making Response to Future Hazards More Efficient, Effective, and/or Equitable

The follow feedback was consistent across all or most stakeholder groups.

- **There need to be clearly designated and well-established facilities in which residents of different neighborhoods can go to be safe during or following a hazard** (e.g., during an extreme heat event, following flooding) **and get critical information and other resources** (e.g., food, water, access to energy/power). If there are no facilities designated prior to a hazard, they should be identified and publicized at the neighborhood level as soon as possible once a hazard has taken place or begun. Ideally available resources should be pooled to help an existing trusted location (e.g., library branch, fire station, community center) become more resilient so that facilities can be designated throughout the City. These **facilities should be prepared to (with support) provide childcare or supervision for children is SFUSD temporarily closes.** Nonetheless, some vulnerable populations (e.g., people with mobility limitations or developmental disabilities) may need to have rooms designated within their buildings that will be more accessible than traveling to another facility (e.g., an air-conditioned community room in a supportive housing facility).
- **The City should provide clear guidance and specific recommendations for the minimum types and amount of emergency supplies that should be available at different types of community-**

serving facilities. For example, maybe supportive housing facilities should have a generator or backup power supply and store enough water on-site to sustain all residents and the approximate number of staff at the facility at any given time. Perhaps organizations that provide after school programming for children and youth should have one first aid kit for every 15 children, enough water stored to sustain all program participants and employees for 36 hours, and enough nonperishable food for half the number of children/youth and staff for 36 hours. **Participants also requested support identifying alternate supplies if the recommended ones could not be maintained or stored on-site** (e.g., maintaining a minimum number of water purifying tablets in lieu of some of the stored water). Many stakeholders also recommended that the City or a close partner (e.g., Association of Bay Area Governments (ABAG), Bay Area Housing Risk Management Agency (BAHRMA)) support community-serving facilities in procuring the recommended emergency supplies via bulk purchasing.

- **City agencies and departments need to coordinate sharing more information (and ideally some amount of client data) with other City agencies/departments.** Additionally, the City should **coordinate with residential property managers that serve vulnerable populations** to systematize how residents who have specific types of access and functional needs are identified (while ensuring that information is kept protected, is managed respectfully, and is regularly updated), how property managers utilize that information to conduct wellbeing checks following a hazard, and how property managers communicate information about access and functional needs to emergency responders when residents need assistance.
- **The City should leverage the resources, connections, and skills of local businesses, local technology companies, community-based organizations, and regional partners to support a more efficient and effective response to emergencies.** Many participants suggested that the City work with Google to integrate specific information about hazards into GoogleMaps (e.g., the locations for nearby designated cooling centers during an extreme heat event, evaluation routes and where to evacuate to during a tsunami warning).

Improving Communication Before and During Hazards

Critical Content and Format

- Participants emphasized that **communications about how to stay safe in a hazard need to be consistent, simple, clear, and repeated.** It needs to include a very brief explanation of the hazard and why/how it is dangerous, how people can keep themselves safe, and where or how to get additional information if desired. **The same information needs to be provided in multiple languages, in accessible formats** (e.g., high-contrast visuals, announcements, with an ASL interpreter), and **with as many non-text visuals or videos available as possible** (similar to airplane safety pamphlets).
- Additionally, the **City needs to provide clear instructions on how specific stakeholders should respond and share information** with their students/clients/tenants/employees/etc.

Did you know?

You can sign up for emergency text message alerts from AlertSF by texting your ZIP code to 888-777 or visiting AlertSF.org.

Ideal Timing and Frequency for Communications

- Stakeholders consistently expressed wanting **more warnings and earlier warnings about likely natural hazards** (e.g., extreme heat event, poor air quality, flood watch). Although they recognized

that community members can become frustrated with too many warnings that do not become reality, workshop participants felt strongly that it was **better for the City to be overprepared**. Most participants recommended that **repeated information is useful if it is concise and provided with regularity** (e.g., an update every morning during poor air quality) **either to communicate that the hazard is still active or to update people as conditions evolve.** They also suggested that automatic alerts (e.g., via text message or email) were especially helpful, even though not all community members have access to a cell phone or email.

- Across all stakeholder groups, people emphasized the **importance of community connections**, people knowing their neighbors, and the active participation or leadership of community members. They also recommended that there be **more efforts focused on vulnerable or disenfranchised communities and neighborhoods to help residents develop or strengthen community cohesion and relationships.** Stakeholders representing racial, environmental, and social justice, as well as those representing children, youth, and families, noted that it may be necessary to provide intentional leadership development opportunities supported with payment and food or other incentives for participants.
- Many workshop participants noted how information about hazards and how to respond is useful, but that **education followed by recurring drills or practice exercise was the most effective way to prepare** community members to respond.

Recommended Media/Methods for Communicating Critical Information

Participants encouraged the City to utilize a wide range of media, including:

- Traditional media (e.g., radio, television news shows)
- Both digital and analog modes
- Public alert systems – ideally updated to provide information in multiple languages
- Via app-based services that people regularly use (e.g., NextBus, GoogleMaps)
- Via text message alerts
- Billboards and other public information display boards (e.g., MUNI posters, Salesforce tower display)
- Inserts into utility bills
- Fliers distributed by property management companies and tenant associations
- Through person-to-person community networks that may or may not exist yet, such as the Neighborhood Empowerment Network groups in some areas of the city
- Via a call center or hotline that people could use to get additional information without calling 911
- Requiring that information about recommended emergency supplies be included in all new and renewed leases for renters
- Website with a simple and easy-to-remember URL
- "Welcome packet" provided when people establish residency or change their address within the City that notes the primary hazards and vulnerabilities in their new neighborhood and shares recommendations to be prepared and local resources
- In-person education and materials distribution at community events and through a pop-up strategy
- Messaging shared by bike share companies and San Francisco Bicycle Coalition to not ride on poor air quality days
- Through neighborhood schools
- Via interactive and engaging opportunities (e.g., "gamifying" preparedness, engaging youth in poster design competitions)

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Next Steps

How Community Input Informs HCR Plan

Community-based organizations were engaged to gather input from stakeholders who directly interface with the public. Insights gleaned from this public engagement process have been integrated into the plan, by amending the summaries of strategies that were originally proposed by City departments to explicitly reflect and acknowledge the public input, or through creation of new strategies.

Plan Adoption and Implementation

The timeline for the revision, adoption, and implementation of the HCR Plan is as follows.

For more information and to see the draft plan when it is available for public comment, please visit: OneSanFrancisco.org/hazard/overview.

If you have any questions or comments, please contact the following SF Office of Resilience and Capital Planning staff:

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415-554-4939

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Public Review Draft

Outreach

The following tweet was viewed over 5,000 times, which was re-tweeted by SF Public Works, Mayor London Breed, and SPUR.

OneSF @One_SF · Dec 11

SF's first ever Hazards and Climate Resilience Plan is out & we want to hear from you! Help shape how we prepare for future events like floods, earthquakes and more. Full plan here: bit.ly/34idlsR & email comments to resilience@sfgov.org. #ClimateCrisis #EMGTwitter #SF

1 9 10

The following post on Next door on December 13th reached over 260,000 residents:

Dept of Emergency Mgmt (DEM), San Francisco Department of Emerge...

For Your Review: SF's 1st Ever Hazards & Climate Resilience Plan!

To ensure San Francisco is prepared for inevitable natural hazards, including earthquakes and those that are becoming more severe due to climate change, San Francisco is asking for public review of its first ever Hazards and Climate Resilience (HCR) Plan. In addition to meeting local hazard mitigation requirements set by the U.S. Federal Emergency Management Agency (FEMA), the Plan will serve as the foundation for the City's next Climate Action Strategy and Community Safety Element update. Please click here for the Public Review Draft.

The Public Draft of the HCR is available on www.onesanfrancisco.org/hazard/overview. We invite you to browse the Plan and let us know if you have any feedback by emailing resilience@sfgov.org.

Thank you!

Public Comments

	Comment Response Form				
	Hazards and Climate Res				
	Public Review Draft				
Comment #	Commenting Individual	Chapter #	Page #	Comment / Draft Text	Response / New Text
1	Kevin Burke	n/a	n/a	Why is San Francisco planning to put tens of thousands of new housing units on Treasure Island, which has trouble keeping the power on and is going to flood frequently by 2050, and planning for next to zero new housing units in Forest Hill, West Portal, Pacific Heights? All of the latter areas are much easier to protect against climate catastrophe than Treasure Island.	The Treasure Island Development Authority (TIDA) has created a comprehensive program to improve the utilitiy infrastructure installed by the US Navy. The same program will also address sea level rise and flooding.
2	Dick Morton	4		A major concern is that the document does not address Fires Following Earthquake which are substantially more complex and difficult to control with extremely and limited fire fighting resources than a Large Urban Fires. USGS estimates a 72% chance of a magnitude 6.7 or greater earthquake should be a warning that slow reaction to the fire consequences cannot be ignored as public policy. San Francisco history teaches that Fires Following Earthquakes are more damaging that the quake shaking.	Fires following earthquake are addressed throughout the Large Urban Fires hazard profile in Chapter 04, including impact, history, location, and severity and probability of future events. Headers for "fire following earthquake" have been added to make this information easier to find within the Large Urban Fire Hazard Profile.
3	Dick Morton	4		The Hazard document appears to think that multiple Fires Following Earthquake are only expanded Large Urban Fires scenario. This type of thinking could be dangerous and catastrophic for San Francisco.	In the Large Urban Fires hazard profile, there is a section describing the process by which an earthquake triggers fires, pointing out several unique conditions compared to other types of fires.

Comment #	Commenting Individual	Chapter #	Page #	Comment / Draft Text	Response / New Text
4	Dick Morton	4		Here are several distinctions that cry out for the document to have a specific Chapter addressing Fires Following Earthquake. • A earthquake is a regional occurrence that means fire departments throughout the region will be fighting fires in their own jurisdiction. • Mutual aid that could be relied on in a Large Urban Fire is unlikely to be forthcoming. • City analysis indicates that there could be 80 to 120 simultaneous ignitions following an earthquake. Due to the wood frame construction of many structures, hilly conditions and prevailing winds the ignitions could quickly morph into conflagrations. • Essential infrastructure (roads, water distribution, power, telecommunication, etc.) in a Large Urban Fires will be available. • In Fires Following Earthquake essential infrastructure could be nonexistent or severely compromised. Roads are likely to be strewn with rubble, gas lines ruptured, and fire fighting water very scarce in many parts of the city. • Fire department resources may focus efforts on rescue of trapped people in collapsed buildings, especially if the citizens are in the path of a rapidly moving conflagration. • Remember only weeks ago the fire department and PG&E applied tremendous resources to the Geary Blvd. main break. The document does not address the multiple gas main and individual gas line breaks that will spread the fire rapidly. • A high proportion of firefighters live outside of San Francisco. In event of a a recall they may have difficulty reaching the city due to highway and bridge failures or damage leaving the on-duty firefighters to handle potentially multiple conflagrations as well as rescues.	There is a section on the nature of fire following earthquake (page 161) that discusses many of these isssues that make fire following earthquake more complex, including damage to communications systems and Fire Department must respond to other emergencies, including building collapse. The City's Emergency Response Plan and the Emergency Firfighting Water System program program developed by the SFPUC and SFFD are the most appropriate place to have detailed discussions about the design and overall effectiveness of fire response efforts.

Comment #	Commenting Individual	Chapter #	Page #	Comment / Draft Text	Response / New Text
5	Dick Morton	4		The fire fighting water supply is inadequate for Fires Following Earthquake. • Auxiliary Water Supply System - AWSS for firefighting independent, largely saltwater high pressure system for catastrophic fires such as those following an earthquake does not serve the entire city nor are there active funded plans to extend AWSS to 15 neighborhoods on the west, south west and east. The 2019 Civil Grand Jury Report called for rapid extension of AWSS to underserved neighborhoods • The PUC's creation of the Co-Potable EFWS cannot be dependent solely on domestic water supply distribution lines that are likely to rupture. This untested concept also ignores State Law that the regional wholesale customers rightful claim on Terminal Reservoir water during an emergency such as an earthquake. How many faulty PUC disaster fire fighting concepts should the 15 neighborhoods without AWSS bear? • Only two saltwater pumps are in the northeast quadrant of the city. There no plans to develop construct saltwater pump stations in the Bayview or Richmond districts to better ensure AWSS capability. • In the brief time to review hundreds of pages I did not notice installation of Lake Merced disaster pumps and pipe connections to the existing AWSS and any expansion of the system. • PUC's Co-Potable EFWS concept is not connected to Lake Merced probably because it would contaminate whatever remains after an earthquake of the its precious domestic water supply system. • The PUC spent tens of millions of dollars upgrading their Lake Merced	Chapter 07 includes strategy IN-3.01 "Complete studies, analysis, and capital proejcts to imrpove and expand the Emergency Firefighting Water System" and IN-3.02 "Improve the capacity of the Potable Water Supply System to fight fires after earthquake and other large urban fires" are devoted to reducing the risk of fire follwoing earthquake. Both of these efforts will include significantly more analysis and actions than we could include in the HCR given its broad multi-hazard and citywide scope.
6	Dick Morton			In March the city proposes a bond with unspecified projects that could begin to build out AWSS. How serious is San Francisco when after many years it cannot commit to specific projects in writing toward expanding AWSS projects with bond money?	The proposed Earthquake Safety and Emergency Response Bond identifies funds for the EFWS but is unable to identify to specific projects until California Environmental Quality Act determinations have been made.
7	Nancy Wuerfel	4		I respectfully submit that the hazard of fires following earthquakes (seismic fires) is inadequately described and therefore no appropriate mitigation measures are proposed to reduce the very serious consequences.	The risk of fire following earthquake is described in each section of the Large Urban Fire hazard profile, including impact, history, location, and severity and probaility of future events. Two strategies are included in Chatper 07 to reduce the risks: Strategy IN-3.01 "Complete studies, analysis, and capital proejcts to imrpove and expand the Emergency Firefighting Water System" and IN-3.02 "Improve the capacity of the Potable Water Supply System to fight fires after earthquake and other large urban fires."
8	Nancy Wuerfel	4		Seismic fire references are lumped in the data referable to day-to-day urban conflagrations. These two types are fires are not comparable and deserve separate recognition, analysis, and recommendations.	Headers for "fire following earthquake" have been added to make information easier to find within the Large Urban Fire Hazard Profile.

Comment #	Commenting Individual	Chapter #	Page #	Comment / Draft Text	Response / New Text
9	Nancy Wuerfel	4		Also, there is a lack of reference to any updated reports by experts to support the likely devastation by seismic fires. The lack of recognition of this hazard then results in no appropriate mitigation recommendations to suppress these possible conflagrations. The most essential mitigation is for San Francisco to have unlimited amounts of water from different sources, along with the pipelines and high pressure hydrants built to deliver this water to any place in the city.	Page 168 the 2017 "Study of Options to Reduce Post-Earthquake Fires in San Francisco" completed by the Applied Technology council estimates $4.1-$10.3 billion in losses from fire following earthquake in a 7.9 earthquake on the San Andreas fault and $1.3-$4.0 billion in damages from a 6.9 earthquake on the Hayward fault. Strategy IN-3.01 "Complete studies, analysis, and capital proejcts to imrpove and expand the Emergency Firefighting Water System" and Strategy IN-3.02 "Improve the capacity of the Potable Water Supply System to fight fires after earthquake and other large urban fires" are devoted to reducing the risk of fire follwoing earthquake.
10	Nancy Wuerfel	4	161	Pg 161 - "The process by which an earthquake triggers fire and a community suppresses those fires consists of the following interrelated events." INCLUDE WITH IGNITION SOURCES: the fact that gas pipelines broken in an earthquake is a major cause for ignitions must be included. INCLUDE WITH SUPPRESSION FACTORS: the most important element of suppressing fires is to have access to an unlimited supply of water for as long as needed to suppress all fires, not just to have "water supply functionality."	"Gas-related sources" has been added to ignition sources. The suppression factors come directly from the Applied Technology Council's 2017 report, "Study of Options to Reduce Post-Earthquake Fires in San Francisco." The study does not indicate which suppression factor is most important.
11	Nancy Wuerfel	4	165	Pg 165 - Using Assessor parcel data from 2008 for modeling the predicted location of large urban fire locations is completely out of date and misrepresents the true hazard for fires following a big earthquake. The impact of using misleading, outdated data means that recommendations for mitigating seismic fires misplaces where resources are needed, and does not require new auxiliary water sources to be developed to suppress fires citywide.	Office of Resilience and Capital Planning is working with the SFPUC and Fire Department to investigate the availability of newer data and maps.
12	Nancy Wuerfel	4	166	Pg 166 - Figure 4-31 Large Urban Fire Hazard Zones The narrative of what this figure shows is incomplete and does have an ending. Also, it is the very same map as was included in the 2010 and 2014 Hazard Mitigation Plan without any changes.	The narrative on the map on page 166 was also included in the narrative on page 165. It has been removed from the map to reduce repetition.
13	Nancy Wuerfel	4	168	Pg 168 - Figure 4-33 Distribution of Burn Density per Block - Hayward scenario There are two footnotes #225 and #226 on this page that are not referenced in the narrative. To what do these notes clarify?	Footnotes 225 and 226 are referenced in the narrative and they provide the source of the information. They do not provide clarification on figure 4-33.

FINAL
COMMENTS ON THE DRAFT 2019 HAZARDS AND CLIMATE RESILIENCE PLAN
Submitted by Nancy Wuerfel, December 19, 2019

I appreciate the opportunity to review and comment on the draft HCR Plan. For the record, I request that my comments today be included in the final Plan's section on Public Comments.

Though the voluminous Plan appears to cover all the hazards that need to be recognized and mitigated in San Francisco, I respectfully submit that the hazard of fires following earthquakes (seismic fires) is inadequately described and therefore no appropriate mitigation measures are proposed to reduce the very serious consequences.

Seismic fire references are lumped in the data referable to day-to-day urban conflagrations. These two types are fires are not comparable and deserve separate recognition, analysis, and recommendations.

Also, there is a lack of reference to any updated reports by experts to support the likely devastation by seismic fires. The lack of recognition of this hazard then results in no appropriate mitigation recommendations to suppress these possible conflagrations. The most essential mitigation is for San Francisco to have <u>unlimited amounts of water</u> from different sources, along with the pipelines and high pressure hydrants built to deliver this water to any place in the city.

RELEVANT CONSULTANT REPORTS AND GOVERNING DOCUMENTS <u>NOT CITED</u> IN THE HCR PLAN THAT ADDRESS THE SEISMIC URBAN CONFLAGRATION HAZARD

1. Executive Directive 10-02, December 22, 2010, by Mayor Gavin Newsom
pg 1 - "The CAPSS reports present a very grim picture. But they also suggest policies and programs to mitigate as much damage and loss of life as possible."
pg 2 - "This Directive establishes the Earthquake Safety Implementation Committee (ESIC) with the main objective being timely implementation of the 17 policy recommendations included in the CAPSS Task 4 report." (AKA CAPSS 2010 report)

2. CAPSS - Community Action Plan for Seismic Safety (CAPSS) 2010
Recommendation 15: Evaluate measures to reduce post-earthquake fires.
pg 53-54 - "a. Improve water supply systems to cover those neighborhoods not served by the Auxiliary Water Supply System. The AWSS provides a redundant water system for fighting fires after earthquakes and at other times, and incorporates many earthquake resistant features in is design. However, this system covers only the northern and eastern City neighborhoods, those that were developed in the early part of the last century when the system was constructed." "This important issue needs to be addressed as soon as possible."

3. Applied Technology Council report ATC 52-1A 2010
pg 81 - "Water supply is critical to fire fighting."
pg 85 - The AWSS is "an auxiliary system, to supplement the use of the municipal water supply system for fighting large fires, under non-earthquake as well as earthquake conditions.."

pg 86 - "the Auxiliary System reduces the need for fire engines and permits a continuous water curtain to be sprayed from a line of hydrants along a defensive line."

4. **San Francisco's General Plan,** priority policy #8, "the City achieves the greatest possible preparedness to protect against injury, loss of life and economic impacts in an earthquake."

Community Safety Element - Policy 2.7, *Continue to expand the City's fire department prevention an firefighting capability with sufficient personnel and training*. "The City also needs to improve water supply systems to cover those neighborhoods not served by the Auxiliary Water Supply."

Environmental Protection Element - Objective 5: Assure a permanent and adequate supply of fresh water to meet the present and future needs of San Francisco.
- Policy 5.5, *Improve and extend the Auxiliary Water Supply System of the Fire Department for more effective fire fighting.* " A recent public referendum authorized a bond issue to extend this system to the remainder of the city, and to modernize certain of its components. Recommendations to remedy system deficiencies should be implemented as soon as possible."

5. California Water Code 73500

Section 73501 (b) - "During any interruption in supply caused by earthquake, or other natural or manmade catastrophe, a regional wholesale water supplier shall distribute water to customers on an equitable basis, to the extent feasible given the physical damage to the regional water system, without preference or discrimination based on a customer's geographic location within or outside the boundary of the wholesale water supplier."

Note: The San Francisco Public Utilities Commission is a regional wholesale supplier that includes customers on the peninsula and inside San Francisco. This code section therefore applies to the water stored in the city, and requires this water to be shared equitably as per the Water Code.

6. AECOM CS-199 report Feb 2014

pg 7 - "San Francisco has proven more susceptible to fire loss than any other large American city.(Marsden 2008)

pg 8 - "In extreme cases when additional water is needed, sea water can be drawn from the bay with fire boats or pump stations and used to charge the (AWSS) system." (Marsen 2008)

pg 8 - "Following an earthquake, the AWSS may become the primary water supply for fire fighting."

7. AECOM Westside EFWS options analysis Jan. 2018

pg 30 - discusses using Lake Merced as a potential water source to connect with the AWSS system and installing a booster pump and additional connections.

pg 37 - "AWSS was designed with redundant water supply and a gridded main system. This provides a more reliable water supply system, allowing potential pipe breaks to be bypassed."

pg 55 (B-4) - Alternative Water Source Assumptions Table 4-2. The source of water "assumes unending supply" and "assumes locations as verified with SFFD".

pg 7 at end of report - Charles Scawthorn, S.E., SPA RISK, Jan 2018 review for Westside EFWS options analysis states "For emergency fire fighting, western San Francisco

has four possible sources of EFWS water supply: Pacific Ocean using a west side salt water pump station; Lake Merced; ground water; and Sunset Reservoir."

8. 2018-2019 Civil Grand Jury report "ACT NOW BEFORE IT IS TOO LATE: AGGRESSIVELY EXPAND AND ENHANCE OUR HIGH-PRESSURE EMERGENCY FIREFIGHTING WATER SYSTEM"

FINDINGS

F1. Fires resulting from an earthquake represent a significant risk of widespread damage and potential loss of life in San Francisco.

F2. The municipal water supply system (MWSS) is highly vulnerable to damage from a major earthquake and is not a reliable source for water supply for firefighting after a major earthquake.

F4. The City's high-pressure emergency water supply system, known as the Auxiliary Water Supply System (AWSS), does not cover large parts of Supervisorial Districts 1, 4, 7 and 11, roughly one-third of the City's developed area. As a result, these districts are not adequately protected from fires after a major earthquake.

F5. A high-pressure, multi-sourced, seismically safe emergency firefighting water supply will be costly but is essential to protect the City.

RECOMMENDATIONS

R1. By no later than December 31, 2020, the Mayor, the SFPUC, the SFFD, and the Office of Resilience and Capital Planning should jointly present to the Board of Supervisors a detailed plan to ensure the City is well prepared to fight fires in all parts of San Francisco in the event of a 1906-magnitude (7.8) earthquake.

R2. The plan discussed in Recommendation R1 should include a detailed proposal, including financing sources, for the installation within 15 years of a high-pressure, multi-sourced, seismically safe emergency water system for those parts of the City that don't currently have one, i.e., by no later than June 30, 2034.

COMMENTS ON SECTION 4.10 LARGE URBAN FIRE

Pg 161 - "The process by which an earthquake triggers fire and a community suppresses those fires consists of the following interrelated events."

INCLUDE WITH IGNITION SOURCES: the fact that gas pipelines broken in an earthquake is a major cause for ignitions must be included.

INCLUDE WITH SUPPRESSION FACTORS: the most important element of suppressing fires is to have access to an unlimited supply of water for as long as needed to suppress all fires, not just to have "water supply functionality."

Pg 165 - Using Assessor parcel data from 2008 for modeling the predicted location of large urban fire locations is completely out of date and misrepresents the true hazard for fires following a big earthquake. The impact of using misleading, outdated data means that recommendations for mitigating seismic fires misplaces where resources are needed, and does not require new auxiliary water sources to be developed to suppress fires citywide.

Pg 166 - Figure 4-31 Large Urban Fire Hazard Zones

The narrative of what this figure shows is incomplete and does have an ending. Also, it is the very same map as was included in the 2010 and 2014 Hazard Mitigation Plan without any changes.

Pg 168 - Figure 4-33 Distribution of Burn Density per Block - Hayward scenario

There are two footnotes #225 and #226 on this page that are not referenced in the narrative. To what do these notes clarify?

Thank you for considering my comments to improve the HCR Plan.

Nancy Wuerfel
San Francisco

December 19, 2019

Brian Strong
Resilience Officer
San Francisco

Dear Brian, I am disappointed that the public was presented hundreds of pages of a draft report during the holidays with a due date today. We have asked numerous times to review the document with the intent of providing helpful comments, now it is an impossible task for citizens.

A major concern is that the document does not address Fires Following Earthquake which are substantially more complex and difficult to control with extremely and limited fire fighting resources than a Large Urban Fires. USGS estimates a 72% chance of a magnitude 6.7 or greater earthquake should be a warning that slow reaction to the fire consequences cannot be ignored as public policy. San Francisco history teaches that Fires Following Earthquakes are more damaging that the quake shaking.
The Hazard document appears to think that multiple Fires Following Earthquake are only expanded Large Urban Fires scenario. This type of thinking could be dangerous and catastrophic for San Francisco.

Here are several distinctions that cry out for the document to have a specific Chapter addressing Fires Following Earthquake:

- A earthquake is a regional occurrence that means fire departments throughout the region will be fighting fires in their own jurisdiction.
- Mutual aid that could be relied on in a Large Urban Fire is unlikely to be forthcoming.
- City analysis indicates that there could be 80 to 120 simultaneous ignitions following an earthquake. Due to the wood frame construction of many structures, hilly conditions and prevailing winds the ignitions could quickly morph into conflagrations.
- Essential infrastructure (roads, water distribution, power, telecommunication, etc.) in a Large Urban Fires will be available.
- In Fires Following Earthquake essential infrastructure could be nonexistent or severely compromised. Roads are likely to be strewn with rubble, gas lines ruptured, and fire fighting water very scarce in many parts of the city.
- Fire department resources may focus efforts on rescue of trapped people in collapsed buildings, especially if the citizens are in the path of a rapidly moving conflagration.
- Remember only weeks ago the fire department and PG&E applied tremendous resources to the Geary Blvd. main break. The document does not address the multiple gas main and individual gas line breaks that will spread the fire rapidly.
- A high proportion of firefighters live outside of San Francisco. In event of a a recall they may have difficulty reaching the city due to highway and bridge failures or damage leaving the on-duty firefighters to handle potentially multiple conflagrations as well as rescues.
- NERT (CERT) volunteers cannot fill the lack of professional firefighters. They also do not have basic supplies and equipment to carryout their trained function. Possibly volunteer and

other city staff resources are mentioned in the document. Red Cross, HSS, Salvation Army, police and fire reserves and police volunteer corps have critical roles that should be reflected.

- While the document cites cisterns it ignores the fact that an engine must pump the water. The fire fighting water supply is inadequate for Fires Following Earthquake.
- Auxiliary Water Supply System - AWSS for firefighting independent, largely saltwater high pressure system for catastrophic fires such as those following an earthquake does not serve the entire city nor are there active funded plans to extend AWSS to 15 neighborhoods on the west, south west and east. The 2019 Civil Grand Jury Report called for rapid extension of AWSS to underserved neighborhoods
- The PUC's creation of the Co-Potable EFWS cannot be dependent solely on domestic water supply distribution lines that are likely to rupture. This untested concept also ignores State Law that the regional wholesale customers rightful claim on Terminal Reservoir water during an emergency such as an earthquake. How many faulty PUC disaster fire fighting concepts should the 15 neighborhoods without AWSS bear?
- Only two saltwater pumps are in the northeast quadrant of the city. There no plans to develop construct saltwater pump stations in the Bayview or Richmond districts to better ensure AWSS capability.
- In the brief time to review hundreds of pages I did not notice installation of Lake Merced disaster pumps and pipe connections to the existing AWSS and any expansion of the system.
- PUC's Co-Potable EFWS concept is not connected to Lake Merced probably because it would contaminate whatever remains after an earthquake of the its precious domestic water supply system.
- The PUC spent tens of millions of dollars upgrading their Lake Merced project. At the time, I advocated to no avail that access to Lake Merced for fighting fires be done during the project. It is important to note Lake Merced is designated by the state as an emergency fire fighting water resource which the city has made no provision for access to this water supply.
- Portable Water Supply Systems - PWSS is an interim and necessary addition of firefighting capability. The 2019 Civil Grand Jury recommends acquisition of three units in the current fiscal.

In March the city proposes a bond with unspecified projects that could begin to build out AWSS. How serious is San Francisco when after many years it cannot commit to specific projects in writing toward expanding AWSS projects with bond money?

Brian, the long underserved non-AWSS neighborhoods deserve better in this Hazard Plan. Without recognition adequate and comprehensive discussion of Fires Following Earthquake the city will continue to drift from faulty and dangerous PUC post earthquake fire fighting "solution" to another.

My best wishes to you and your family and staff for a most healthy and joyous new year.
Dick Morten

Why is San Francisco planning to put tens of thousands of new housing units on Treasure Island, which has trouble keeping the power on and is going to flood frequently by 2050, and planning for next to zero new housing units in Forest Hill, West Portal, Pacific Heights? All of the latter areas are much easier to protect against climate catastrophe than Treasure Island.

Kevin Burke
94110